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ABSTRACT

This annual publication contains 66 presentations, poster sessions, papers, and panel and workshop sessions. Invited and refereed papers are as follows: "View from the States" (Humphrey); "Consumer Policy Perspectives" (Byrne); "Consumers' Response to Credit Card Solicitations" (Hogarth, Shue); "Welfare Impact of Apparel Price Increases" (Fan et al.); "Consumer Satisfaction with Vehicle Leasing" (DeVaney, Bechman); "Why We Need Economic Insights to Know What's Good for Us" (Morgan); "Economic Impact of Widowhood in the 1990s" (Holden, Zick); "Beyond Control? Understanding Consumer Behavior Using a Measure for Consumer Locus of Control" (Busseri et al.); "Who Leaves the Farm?" (Kolodinsky, Pelch); "Paid and Unpaid Contributions of Wives to Family Businesses" (Rowe, Hong); "Retirement Savings of Nonfarm Self-Employed Workers" (DeVaney et al.); "Consumption Patterns of Asian-Canadians and Canadian-Born" (Sharpe, Abdel-Ghany); "Chinese Adolescent Consumer Socialization" (Cao et al.); "Decision-Making Styles of Young-Adult Chinese Consumers" (Fan et al.); "Experiential Consumption" (Friedman); "Indicative Measures of Health Risk Information on Fat and Cholesterol for U.S. and Japanese Consumers" (Kim, Chern); "Economic Security Issues of Married Couples versus Unmarried Couples" (Dolan, Stum); "Who Gets It Right?" (Kolodinsky et al.); "Fresh Vegetable Prices" (Eastwood et al.); "Effects of Consumer Beliefs on Responses to Pesticide Residue Concerns" (Deodhar et al.); "Using Positive Behavioral Models to Help Older Consumers Avoid Victimization by Confidence Swindlers" (Friedman); "Consumer Protection in South Korea" (Joo); "Financial Difficulty Measured as Monthly Deficit" (Williams); "Overspending Behavior of Households with and without Vehicle Purchases" (Jayathirtha et al.); "Information as a Key Determinant of Medicaid Managed Care Health Plan Enrollment" (Morton); "Event History Analysis of the Retirement Process" (Kolodinsky); "Financing Long Term Care" (Stum); "Elderly Volunteers" (Kim, Hong. Selected other papers are as follows: "Who Gets Grandma's Yellow Pie Plate? A Consumer Education Program Addressing the Transfer of Non-titled Property" (Stum); "Credit Card

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Behaviors of University Students" (Allen, Jover); "Divorce Education" (Fletcher et al.); "Do Employee Wellness Participants Incur Lower Health Care Costs" (Haynes et al.); "Employers Pay Dearly for the Poor Personal Financial Behavior of Employees" (Garman, Leech); "Delivering Useful Information for Consumers" (Lee); "Privacy Issues on the World Wide Web" (Dolan et al.); and "Mentor's Advice: How to Get Hired, Tenured, and Promoted" (Xiao et al.). (YLB)

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43rd Annual Conference
April 2 - 5, 1997
Salt Lake City, Utah

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Consumer Interests Annual

Irene E. Leech, Editor

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Volume 43

Irene E. Leech
Editor

43rd Annual Conference

of the

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CONTENTS

Page

Author's List vii
Editor's Note xiv
Conference Chairs xv
ACCI Officers and Committees xvi

Invited Lecturers and Special Speakers

The Colston E. Warne Lecture

A View from the States 1
Hubert H. "Skip" Humphrey III

Consumer Policy Perspectives: A View from Washington 6
Leslie Byrne

Refereed Papers

Consumers' Response to Credit Card Solicitations 10
Jeanne M. Hogarth, Jeffrey F. Shue

The Welfare Impact of Apparel Price Increases: Who Gets Hurt More, the Poor of the Rich? 16
Jessie X. Fan, Jinkook Lee, Sherman Hanna

Consumer Satisfaction with Vehicle Leasing 22
Sharon DeVaney, Janet C. Bechman

Why We Need Economic Insights to Know What's Good For Us 28
James N. Morgan

The Economic Impact of Widowhood in the 1990's: Evidence from the Survey of Income And Program Participation 34
Karen C. Holden, Cathleen D. Zick

Beyond Control? Understanding Consumer Behavior Using a Measure for Consumer Locus of Control 40
Michael A. Busseri, Robert R. Kerton, Herbert M. Lefcourt

Who Leaves the Farm? An Investigation of Community Supported Agriculture (CSA) Farm Membership Renewels 46
Jane Kolodinsky, Leslie Pelch

The Paid and Unpaid Contributions of Wives to Family Businesses 52
Barbara R. Rowe, Gong-Soog Hong

Retirement Savings of Nonfarm Self-employed Workers: An Exploratory Study 58
Sharon A. DeVaney, Ya-ping Su, Constance Y. Kratzer, Deanna L. Sharpe

Consumption Patterns of Asian-Canadians and Canadian-Born 64
Deanna L. Sharpe, Mohamed Abdel-Ghany

Chinese Adolescent Consumer Socialization: A Study of Chinese Urban Adolescents' Involvement in Family Purchasing Activities 70
Xiaobing Cao, Dorothy Z. Price, David W. Price, Qingwen Dong

Decision-making Styles of Young-adult Chinese Consumers: An International Comparison 76
Jessie X. Fan, Jing J. Xiao, Yinzhou Xu

Experiential Consumption: A Little Information May Not Be a Good Thing 82
Monroe Friedman

Indicative Measures of Health Risk Information on Fat and Cholesterol for U.S. and Japanese Consumers 84
Sam-Ryang Kim, Wen S. Chern

Economic Security Issues of Married Couples versus Unmarried Couples 90
Elizabeth M. Dolan, Marlene Stum

Who gets it right? Consumer Experiences with Mandatory Labeling of Dairy Products containing rBST 96
Jane Kolodinsky, David Conner, Qingbin Wang

Fresh Vegetable Prices: Do Supermarkets Raise and Lower Them the Same Way? 102
David B. Eastwood, Brian C. Carver, John R. Brooker

The Effects of Consumer Beliefs on Responses to Pesticide Residue Concerns: Implications for Food Safety Policy 107
Satish Y. Deodhar, Stanley M. Fletcher, Bryan J. Hubbell, Sukant K. Misra

Using Positive Behavioral Models to Help Older Consumers Avoid Victimization by Confidence Swindlers 113
Monroe Friedman

Consumer Protection in South Korea 115
So-hyun Joo

Financial Difficulty Measured as Monthly Deficit: An Empirical Analysis of Associated Factors 118
Flora L. Williams

Overspending Behavior of Households With and Without Vehicle Purchases 124
Chandrika Jayathirtha, Jonathan Fox, Sherman Hanna

Information as a Key Determinant of Medicaid Managed Care Health Plan Enrollment 130
Lois Wright Morton

An Event History Analysis of the Retirement Process 136
Jane Kolodinsky

Financing Long Term Care: A Family Perspective of Private and Public Responsibility 142
Marlene S. Stum

Elderly Volunteers: Analysis of Participation and Time Commitment 148
Soo Yeon Kim, Gong-Soog Hong

Refereed Poster Session

Complaint Behavior of Taiwanese Consumers 154
Yaolung James Hsieh

Consumer Issues and Policies: State Lotteries 155
Carole J. Makela, Suzanne M. Tucker

Virtual Economics 156
Susan J. Jenkins

Who Gets Grandma's Yellow Pie Plate? A Consumer Education Program Addressing the Transfer of Non-Titled Property 157
Marlene S. Stum

Who are the Unbanked? What Will Happen When They are Required to Become Banked? 158
Lori Embrey, Jonathan Fox

Financial Abuse of Mentally Incompetent Older Adults: Findings from a Cooperative Research Project 159
John B. Bond, Jr., Rosemarie Cuddy, Karen A. Duncan, Steven Hill, Mary Kronenwald, Doreen L. Smith, Penny Yellen

New Enrollees' Satisfaction with Information from Their Medicaid HMO 160
Norleen Ackerman

What We Eat in America—Does Season Make a Difference? 161
Mary Y. Hama

Credit Card Behaviors of University Students: Ethnic Differences 162
Judy L. Allen, Margaret A. Jover

Invited Papers Session

Unfair Discrimination in Insurance: A Look at Three Issues 163
Brenda J. Cude, Holly J. Hunts, Joan K. Lewis

Overview of Multiple Imputation and Repeated-Imputation Inference (RII) Techniques 167
Catherine Phillips Montalto, Jaimie Sung

Logit Analysis of the Probability of Having a Negative Net Worth Using Repeated Imputation Inference (RII) Techniques on 1992 SCF 168
Peng Chen, Michael S. Finke

Tobit Analysis to Investigate Determinants of the Level of Assets in Couples' Pension Accounts Using Multiply-Imputed Data and RII Techniques 169
Yoonkyung Yuh, Sharon A. DeVaney, Sherman Hanna

Effects of Multiple Imputation: Empirical Results Using Linear Regression to Predict the Level of Total Household Income 170
Catherine Phillips Montalto, Jaimie Sung

Divorce Education: Exploring the Role for Family and Consumer Economists 171
Cynthia Needles Fletcher, Jean W. Bauer, Karen P. Goebel

Do Employee Wellness Participants Incur Lower Health Care Costs: Preliminary Empirical Results 174
George W. Haynes, Vincent Smith, Timothy Dunnagan

Employers Pay Dearly for the Poor Financial Behavior of Employees 179
E. Thomas Garman, Irene E. Leech

Delivering Useful Information for Consumers: Conceptual and Methodological Issues 181
Jinkook Lee

The Effects of Trade Liberalization on Consumers in Developing Countries: In Terms of Information Flow, Choice of Alternatives and Redress 183
Karen M. McGowan

Panel and Workshop Sessions

Invited Panel Session: A Comparison of the Structures and Current Issues of the Consumer Movements of Canada, Australia and New Zealand 185
Louise Sylvan, Lydia Shevchuk, Anne Pigeon, Sue McGregor, Margaret Charters

Directions in the Consumer's Interest: Issues of Accountability in Curriculum Revision 189
Lori Embrey, Michael Finke, Jonathan Fox, Loren Geistfeld, Margaret Mietus Sanik

Influencing Public Policy: Child Support Policy in Transition 193
Jean M. Lown

Coping During Periods of Economic Uncertainty 196
Thesia I. Garner, Linda L. Stinson, Ramona K.Z. Heck, Marlene S. Stum, Janet E. Fast, Jane Shuchardt

Privacy Issues on the World Wide Web 200
Elizabeth M. Dolan, Irene E. Leech, Jikyeong Kang

Consumer Issues Related to Life Insurance and Genetic Testing: Preliminary Findings for the BRCA1 Gene Mutation 203
Ken R. Smith, Cathleen D. Zick, Robert N. Mayer, Jeffery R. Botkin

Household Credit and Debt Portfolios: Variation by Definition 205
Carole G. Bozworth, Sandra J. Huston

Credit and Debt Portfolio by Household Type 208
Sandra Huston, Y. Regina Chang

Credit and Debt Portfolios of the Young and Old 210
Deanna L. Sharpe

From Research to Program Development 213
Carole G. Bozworth

Mentor's Advice: How to Get Hired, Tenured, and Promoted 215
Jing J. Xiao, Gong Soog Hong, Geraldien I. Olson, Jane McCullough, Jean Kinsey, W. Keith Bryant Edward J. Metzen

(Almost) Everything You Wanted to Know About the New Consumer Leasing Rules 218
Jeanne M. Hogarth

Graduate Student Papers

Characteristics of Consumers Who Seek Third Party Redress 222
Ronald H. Tipper

An Investigation of Four Investor Risk Preference Rules-of-Thumb 227
John E. Grable

Factors Affecting Household Financial Expectations: A Multinomial Logit Analysis 231
Satomi Wakita

Adequate Emergency Fund Holdings and Family Type 235
Sandra Huston

Are the Floors Less "Sticky" at Home? Pay Equity in Home-Based Work 239
Patricia D. Olson

How Do We Value Fat? The Case of Ground Beef 243
Michael S. Finke

Ph.D. Dissertation Award Winning Paper

Human Capital Enhancing-Expenditures: A Comparison of Female-Headed and Married-Couple Households 247
Yoon G. Jang

AUTHOR INDEX TO THE 1997 CONSUMER INTERESTS ANNUAL

AUTHOR	TITLE	PAGE
Abdel-Ghany, Mohamed	see Sharpe, Deanna L.	64
Ackerman, Norleen	New Enrollees' Satisfaction with Information from Their Medicaid HMO	160
Allen, Judy L.	Credit Card Behaviors of University Students: Ethnic Differences	162
Bauer, Jean W.	see Fletcher, Cynthia Needles	171
Bechman, Janet C.	see DeVaney, Sharon	22
Bond, Jr., John B.	Financial Abuse of Mentally Incompetent Older Adults: Findings from a Cooperative Research Project	159
Botkin, Jeffery R.	see Smith, Ken R.	203
Bozworth, Carole G.	From Research to Program Development	213
Bozworth, Carole G.	Household Credit and Debt Portfolios: Variation by Definition	205
Brooker, John R.	see Eastwood, David B.	102
Bryant, W. Keith	see Xiao, Jing J.	215
Busseri, Michael A.	Beyond Control? Understanding Consumer Behavior Using a Measure for Consumer Locus of Control	40
Byrne, Leslie	Consumer Policy Perspectives: A View from Washington	6
Cao, Xiaobing	Chinese Adolescent Consumer Socialization: A Study of Chinese Urban Adolescents' Involvement in Family Purchasing Activities	70
Carver, Brian C.	see Eastwood, David B.	102
Chang, Y. Regina	see Huston, Sandra J.	208
Charters, Margaret	see Sylvan, Louise	185
Chen, Peng	Logit Analysis of the Probability of Having a Negative Net Worth Using Repeated Imputation Inference (RII) Techniques on 1992 SCF	168
Chern, Wen S.	see Kim, Sam-Ryang	84
Conner, David	see Kolodinsky, Jane	96
Cuddy, Rosemarie	see Bond, Jr., John B.	159
Cude, Brenda J.	Unfair Discrimination in Insurance: A Look at Three Issues	163

AUTHOR	TITLE	PAGE
Deodhar, Satish Y.	The Effects of Consumer Beliefs on Responses to Pesticide Residue Concerns: Implications for Food Safety Policy	107
DeVaney, Sharon A.	Consumer Satisfaction with Vehicle Leasing	22
DeVaney, Sharon A.	Retirement Savings of Nonfarm Self-employed Workers: An Exploratory Study	58
DeVaney, Sharon A.	see Yuh, Yoonkyung	169
Dolan, Elizabeth M.	Economic Security Issues of Married Couples versus Unmarried Couples	90
Dolan, Elizabeth M.	Privacy Issues on the World Wide Web	200
Dong, Qingwen	see Cao, Xiaobing	70
Dunnagan, Timothy	see Haynes, George W.	174
Duncan, Karen A.	see Bond, Jr., John B.	159
Eastwood, David B.	Fresh Vegetable Prices: Do Supermarkets Raise and Lower Them the Same Way?	102
Embrey, Lori	Directions in the Consumer's Interest: Issues of Accountability in Curriculum Revision	189
Embrey, Lori	Who are the Unbanked? What Will Happen When They are Required to Become Banked?	158
Fan, Jessie X.	Decision-making Styles of Young-adult Chinese Consumers: An International Comparison	76
Fan, Jessie X.	The Welfare Impact of Apparel Price Increases: Who Gets Hurt More, the Poor of the Rich?	16
Fast, Janet E.	see Garner, Thesia I.	196
Finke, Michael S.	How Do We Value Fat? The Case of Ground Beef	243
Finke, Michael S.	see Chen, Peng	168
Finke, Michael S.	see Embrey, Lori	189
Fletcher, Cynthia Needles	Divorce Education: Exploring the Role for Family and Consumer Economists	171
Fletcher, Stanley M.	see Deodhar, Satish Y.	107
Fox, Jonathan	see Embrey, Lori	158
Fox, Jonathan	see Embrey, Lori	189

AUTHOR	TITLE	PAGE
Fox, Jonathan	see Jayathirtha, Chandrika	124
Friedman, Monroe	Experiential Consumption: A Little Information May Not Be a Good Thing	82
Friedman, Monroe	Using Positive Behavioral Models to Help Older Consumers Avoid Victimizaton by Confidence Swindlers	113
Garman, E. Thomas	Employers Pay Dearly for the Poor Financial Behavior of Employees	179
Garner, Thesia I.	Coping During Periods of Economic Uncertainty	196
Geistfeld, Loren	see Embrey, Lori	189
Goebel, Karen P.	see Fletcher, Cynthia Needles	171
Grable, John E.	An Investigation of Four Investor Risk Preference Rules-of-Thumb	227
Hama, Mary Y.	What We Eat in America—Does Season Make a Difference?	161
Hanna, Sherman	see Fan, Jessie X.	16
Hanna, Sherman	see Jayathirtha, Chandrika	124
Hanna, Sherman	see Yuh, Yoonkyung	169
Haynes, George W.	Do Employee Wellness Participants Incur Lower Health Care Costs: Preliminary Empirical Results	174
Heck, Ramona K.Z.	see Garner, Thesia I.	196
Hill, Steven	see Bond, Jr., John B.	159
Hogarth, Jeanne M.	(Almost) Everything You Wanted to Know About the New Consumer Leasing Rules	218
Hogarth, Jeanne M.	Consumers' Response to Credit Card Solicitations	10
Holden, Karen C.	The Economic Impact of Widowhood in the 1990's: Evidence from the Survey of Income and Program Participation	34
Hong, Gong-Soog	see Kim, Soo Yeon	148
Hong, Gong-Soog	see Rowe, Barbara R.	52
Hong, Gong-Soog	see Xiao, Jing J.	215
Hsieh, Yaolung James	Complaint Behavior of Taiwanese Consumers	154
Hubbell, Bryan J.	see Deodhar, Satish Y.	107

AUTHOR	TITLE	PAGE
Humphrey, Hubert H. "Skip" III	A View from the States	1
Hunts, Holly J.	see Cude, Brenda J.	163
Huston, Sandra J.	Adequate Emergency Fund Holdings and Family Type	235
Huston, Sandra J.	Credit and Debt Portfolio by Household Type	208
Huston, Sandra J.	see Bozworth, Carole G.	205
Jang, Yoon G.	Human Capital Enhancing-Expenditures: A Comparison of Female-Headed and Married-Couple Households	247
Jayathirtha, Chandrika	Overspending Behavior of Households With and Without Vehicle Purchases	124
Jenkins, Susan J.	Virtual Economics	156
Joo, So-hyun	Consumer Protection in South Korea	115
Jover, Margaret A.	see Allen, Judy L.	162
Kang, Jikyeong	see Dolan, Elizabeth M.	200
Kerton, Robert R.	see Busseri, Michael A.	40
Kim, Sam-Ryang	Indicative Measures of Health Risk Information on Fat and Cholesterol for U.S. and Japanese Consumers	84
Kim, Soo Yeon	Elderly Volunteers: Analysis of Participation and Time Commitment	148
Kinsey, Jean	see Xiao, Jing J.	215
Kolodinsky, Jane	An Event History Analysis of the Retirement Process	136
Kolodinsky, Jane	Who gets it right? Consumer Experiences with Mandatory Labeling of Dairy Products containing rBST	96
Kolodinsky, Jane	Who Leaves the Farm? An Investigation of Community Supported Agriculture (CSA) Farm Membership Renewels	46
Kratzer, Constance Y.	see DeVaney, Sharon	58
Kronenwald, Mary	see Bond, Jr., John B.	159
Lee, Jinkook	Delivering Useful Information for Consumers: Conceptual and Methodological Issues	181
Lee, Jinkook	see Fan, Jessie X.	16

AUTHOR	TITLE	PAGE
Leech, Irene E.	see Dolan, Elizabeth M.	200
Leech, Irene E.	see Garman, E. Thomas	179
Lefcourt, Herbert M.	see Busseri, Michael A.	40
Lewis, Joan K.	see Cude, Brenda J.	163
Lown, Jean M.	Influencing Public Policy: Child Support Policy in Transition	193
Makela, Carole J.	Consumer Issues and Policies: State Lotteries	155
Mayer, Robert N.	see Smith, Ken R.	203
McCullough, Jane	see Xiao, Jing J.	215
McGowan, Karen M.	The Effects of Trade Liberalization on Consumers in Developing Countries: In Terms of Information Flow, Choice of Alternatives and Redress	183
McGregor, Sue	see Sylvan, Louise	185
Metzen, Edward J.	see Xiao, Jing J.	215
Misra, Sukant K.	see Deodhar, Satish Y.	107
Montalto, Catherine Phillips	Effects of Multiple Imputation: Empirical Results Using Linear Regression to Predict the Level of Total Household Income	170
Montalto, Catherine Phillips	Overview of Multiple Imputation and Repeated-Imputation Inference (RII) Techniques	167
Morgan, James N.	Why We Need Economic Insights to Know What's Good For Us	28
Morton, Lois Wright	Information as a Key Determinant of Medicaid Managed Care Health Plan Enrollment	130
Olson, Geraldien I.	see Xiao, Jing J.	215
Olson, Patricia D.	Are the Floors Less "Sticky" at Home? Pay Equity in Home-Based Work	239
Pelch, Leslie	see Kolodinsky, Jane	46
Pigeon, Anne	see Sylvan, Louise	185
Price, David W.	see Cao, Xiaobing	70
Price, Dorothy Z.	see Cao, Xiaobing	70
Rowe, Barbara R.	The Paid and Unpaid Contributions of Wives to Family Businesses	52
Sanik, Margaret Mietus	see Embrey, Lori	189

AUTHOR	TITLE	PAGE
Sharpe, Deanna L.	Consumption Patterns of Asian-Canadians and Canadian-Born	64
Sharpe, Deanna L.	Credit and Debt Portfolios of the Young and Old	210
Sharpe, Deanna L.	see DeVaney, Sharon	58
Shevchuk, Lydia	see Sylvan, Louise	185
Shuchardt, Jane	see Garner, Thesia I.	196
Shue, Jeffrey F.	see Hogarth, Jeanne M.	10
Smith, Doreen L.	see Bond, Jr., John B.	159
Smith, Ken R.	Consumer Issues Related to Life Insurance and Genetic Testing: Preliminary Findings for the BRCA1 Gene Mutation	203
Smith, Vincent	see Haynes, George W.	174
Stinson, Linda L.	see Garner, Thesia I.	196
Stum, Marlene S.	Financing Long Term Care: A Family Perspective of Private and Public Responsibility	142
Stum, Marlene S.	Who Gets Grandma's Yellow Pie Plate? A Consumer Education Program Addressing the Transfer of Non-Titled Property	157
Stum, Marlene S.	see Dolan, Elizabeth M.	90
Stum, Marlene S.	see Garner, Thesia I.	196
Su, Ya-ping	see DeVaney, Sharon A.	58
Sung, Jaimie	see Montalto, Catherine Phillips	167
Sung, Jaimie	see Montalto, Catherine Phillips	170
Sylvan, Louise	Invited Panel Session: A Comparison of the Structures and Current Issues of the Consumer Movements of Canada, Australia and New Zealand	185
Tipper, Ronald H.	Characteristics of Consumers Who Seek Third Party Redress	222
Tucker, Suzanne M.	see Makela, Carole J.	155
Wakita, Satomi	Factors Affecting Household Financial Expectations: A Multinomial Logit Analysis	231
Wang, Qingbin	see Kolodinsky, Jane	96
Williams, Flora L.	Financial Difficulty Measured as Monthly Deficit: An Empirical Analysis of Associated Factors	118

AUTHOR	TITLE	PAGE
Xiao, Jing J.	Mentor's Advice: How to Get Hired, Tenured, and Promoted	215
Xiao, Jing J.	see Fan, Jessie X.	76
Xu, Yinzhou	see Fan, Jessie X.	76
Yellen, Penny	see Bond, Jr., John B.	159
Yuh, Yoonkyung	Tobit Analysis to Investigate Determinants of the Level of Assets in Couples' Pension Accounts Using Multiply-Imputed Data and RII Techniques	169
Zick, Cathleen D.	see Holden, Karen C.	22
Zick, Cathleen D.	see Smith, Ken R.	203

FROM THE EDITOR

The 43rd Annual Conference of the American Council on Consumer Interests was held in Salt Lake City, Utah April 2-5, 1997. Hubert H. "Skip" Huphrey III, Minnesota's Attorney General, presented a stimulating Colston E. Warne Lecture, An Emerging Consumer Agenda: A View from the States, to open the conference. Thursday's highlight was Special Assistant to the President and Director of the U.S. Office of Consumer Affairs Leslie Byrne's Consumer Policy Perspective from Washington. Wendy McGoodwin, Executive Director for the Council for Responsible Genetics in Boston, Massachusetts wrapped the conference up in the Esther Peterson Consumer Policy Forum.

Twenty-six refereed papers were accepted for presentation on topics ranging from vehicle leasing, to product labeling, to consumption patterns. The refereed poster session showcased nine intriguing topics including lotteries, property inheritance, and credit cards. Ten invited papers and fourteen panel and workshop sessions provided additional depth for the conference. Graduate students presented six papers.

Program Chair Mary Carsky and her assistants spent many days assembling the program. John Kushman organized the poster session and Regina Chang was responsible for the Graduate Student Session while Aimee Prawitz organized exhibits. All sessions involved participants and many discussions carried into breaks. Participants visited Salt Lake City highlights, including a Utah Jazz basketball game. On Saturday some topped the conference with a trek to Snow Bird. With John Burton in charge of local arrangements, there were plenty of interesting opportunities for free time.

Cristin Campbell spent the summer solving one challenge after another to produce these proceedings. Without her work, they would not be done. We appreciate those authors who gracefully accepted and worked within the established page limitations, and those who followed directions for manuscript preparation. Virginia Tech provided the equipment and supplies for this work. As ACCI moves toward the internet, Executive Director Anita Metzen and others are exploring our options for proceedings in the future. Stay tuned for changes to increase access to ACCI conference materials!

Irene E. Leech
Virginia Tech

1997 ANNUAL ACCI CONFERENCE

Program Chair: Mary L. Carsky, University of Hartford
Poster Chair: John E. Kushman, University of Delaware
Local Arrangements: John Burton, University of Utah
Exhibits Chair: Aimee D. Prawitz, Northern Illinois University
Graduate Student Session: Regina Chang, University of Missouri
Consumer Interests Annual Editor: Irene E. Leech, Virginia Tech

PAPER AND POSTER REVIEWERS

Thanks to the following people who so generously served as reviewers for the refereed papers and posters presented at this conference.

William Bailey, University of Arkansas
Keith Byrant, Cornell University
John Burton, University of Utah
Margaret Charters, Syracuse University
Elizabeth Dolan, University of New Hampshire
Richard Ellis, Auburn University
Cynthia Fletcher, Iowa State University
Karen Folk, University of Wisconsin
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Audrey Peterson, University of Montana
Aimee Prawitz, Northern Illinois University
Herbert Rotfeld, Auburn University
Margery Steinberg, University of Hartford
Satomi Wakita, University of Illinois

Reviewers of Graduate Student Papers for 1997 Conference

Thanks to the following young professionals who served as reviewers for the refereed graduate student papers presented at this conference.

Tracy Brown, University of Manitoba, Canada
Natasha Carvalho, University of Manitoba, Canada
Peng Chen, Ohio State University
John Grable, Virginia Tech
Sharifah Haron, University of Missouri
Sandra Huston, University of Missouri
Kennita Kind, University of Georgia
Elizabeth Kiss, University of Illinois
C. Wayne Moore, Texas Tech University
Trish Olson, Ohio State University
Jie Qin, University of Missouri
Anita Subramaniam, Ohio State University

THE AMERICAN COUNCIL ON CONSUMER INTERESTS

ACCI was established in 1953. Over the past 43 years, numerous professionals have contributed their time and energies to serve the ACCI membership in leadership positions.

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A View From the States

Hubert H. Humphrey, III, Minnesota Attorney General

Thank you, and good morning. Thank you, Judy McKenna, Anita Metzen, and ACCI. I'm delighted and honored to be here with you this morning. Delighted not simply because we're here in one of my favorite places in all of America, and not simply because we're just minutes away from some of the best skiing in the country--although I have to admit that the thought has crossed my mind. But I'm delighted to have a chance to spend a little time with all of you and to get some of your insights into where American consumers are today, where they're headed, and how we can best work together to help ensure that our changing economy operates in their best interests.

You know, I think of myself as a consumer advocate, but the truth is that consumer advocacy is something of a three-legged stool. Those of us who serve consumers as public officials, whether as law-enforcement officials, regulators, or policy-makers, usually think we have the answers to the consumer problems of the day, but we're only one part of the equation. More often than not, the private consumer advocacy organizations, and even some businesses, are a step or two ahead of us. Often, government can accomplish more, and work more efficiently, by working in partnership with advocacy groups and responsible businesses. They're the second leg of the stool, and they're equally important. Sometimes, though, consumer advocates, public and private, have a tendency to rush in with solutions before we really understand the problem. You know the approach: "ready,..fire,...aim!" I don't suppose you've ever seen any examples of that, have you?

That's why we really need to find better ways to work more closely with groups like ACCI, and with those of you in this room. You represent the critical third leg of that stool. Your research and analysis can help give us the solid grounding, the reliable understanding of consumer's interests and their behavior, that will help ensure that our aim is not misdirected. And that kind of understanding can empower consumers to protect themselves. That's why I am honored to be delivering these remarks in memory of Colston Warne, and his founding of the Consumers Union. Who has done more, down through the years, to empower the individual American consumer, and to demonstrate the power of information in the marketplace, than Consumers Union and its publications like Consumer Reports? So I am especially honored and I thank you for giving me the opportunity to join you today, and I look forward to finding ways to work more closely with you in the future.

This morning I want to share a few thoughts about the state of the consumer movement in America today, and to touch on a few of the emerging issues of concern to me and my colleagues in statehouses around the country.

There are those who look around today and worry that the consumer movement may have lost some of its momentum. They remember a time when consumerism seemed to have a clearer sense of direction; when each year brought exciting new additions to the rights of consumers; when we felt we were on a roll. They look around today, especially in Washington, and they worry that our momentum has stalled.

Those fears are not unfounded. If we were to judge our progress strictly by the output of the Congress, there would probably be no denying that consumers are in a bit of a slump. Whenever I run into consumer advocates on Capitol Hill in Washington these days, they look a little haggard. That's because they're usually up there fighting to hang onto some time-honored consumer protection, rather than expanding the list of consumers' right. Deregulation is the order of the day. And the prevailing mood in Congress is, shall we say, not overly friendly to consumers' interests.

I regret to tell you that we're not immune to these forces in the states, either. Those of you who have worked in state or local consumer protection agencies have probably experienced the paradox of a public that seems to be ever more demanding of assistance, but that can still be indifferent, or even hostile, when consumer protection programs come under the axe.

This morning, I want to try to put all of this in a little bit of context, if I can. And I want to suggest that, while these troublesome trends are real, the future of the consumer movement remains bright - brighter, in fact, than it has ever been. We are indeed in a time of challenges. But the need for stronger, smarter consumer

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protections has never been greater. People like those of you in this room have the insights and the imagination to help us find those new solutions. And I believe that, over time, the changes re-shaping the American economy will inevitably produce a climate that not only welcomes, but demands those solutions.

For the moment, though, the consumer movement is in a state of transition and uncertainty. That shouldn't surprise us. You could say the same thing about our country itself. We are a dynamic nation. Our entire history has been one of endless transition. But today, change is so pervasive and so swift that we have difficulty even picturing what our lives will be like ten years from now. Technology and the continuing transformation of the global economy have undermined our confidence in our own economic futures. We worry about unraveling social values. About racial and ethnic tensions. We see civility in decline and violence pervading our culture. We wonder how we will balance our work with our lives, how we will get our kids through college and our parents through the struggles of aging. And many of us have grown cynical about the ability of our social institutions, and especially government, to help us face these challenges.

Amid this uncertainty, it's not surprising if we wonder just where the future of the consumer movement lies. What will be the role of consumer advocates, and of public policy, in protecting the next generation of consumers? Certainly there are those who see government as part of the problem, and who would be happy to see consumers left to the tender mercies of an unbridled marketplace.

Are they the heralds of the future? Could it be that we are headed for an era of privatization, where self-regulation will take the place of legal rights? Could a truly global economy, and emerging technologies like the World Wide Web, render governmental solutions increasingly ineffectual or even meaningless? When you combine these concerns with the popular current of thought that all governments should be scaled back radically, if not eliminated altogether - and there are plenty of public figures who are happy to swim with that current - then it is understandable that some might wonder whether the best days of the consumer movement are behind it.

I have even heard the theory that, with anti-government attitudes so prevalent, and with global wealth concentrating in fewer and fewer hands, we could be on the verge of an era reminiscent of the shameful closing days of the last century, when Vanderbilts lived in 200-room palaces, while the ten-year old sons of Irish immigrants worked double shifts in coal mines. The days when the only standards of consumer protection were "let the buyer beware", and "let the devil take the hindmost". Could we be headed back to a similar future?

Well, before we start drafting any obituaries for the consumer movement, let me suggest an alternative hypothesis.

Let me suggest that it is out of just such times of uncertainty that our country has always forged its best solutions. In fact, if you remember, it was precisely the abuses of the laissez faire economy at the turn of the century that gave rise to the consumer movement in the first place. That gave us the flowering of creativity and energy we remember as the Progressive Movement, with our nation's first steps to help ensure an honest marketplace, a humane workplace, a clean natural environment. That gave us pure food and drug laws, child labor laws, workers' compensation, utility regulation. That busted the trusts in oil and steel and railroads. That laid the foundation of rights and safeguards that still help make free enterprise fair, as well as free.

So to anyone who thinks the consumer movement has lost its way, I say, we're not lost. We're reconnoitering! We haven't hit the wall; we're catching our breath. And gathering our strength. Because we've got our work cut out for us to ensure the integrity of the brave, new marketplace that lies ahead.

In the meantime, if you ever get the impression that the flame of the consumer movement is flickering, I want to invite you to come and spend some time with us in a consumer protection program. I want you to know that, out there where the real consumers are getting ripped off, out there where they come look us in the eye and demand action, the flame still burns. And I hope you can help us keep it burning in the right direction.

So in the remainder of my time this morning, I want to invite you along with me on a quick tour of ten areas where the energies of consumerism are being felt in the states today. Each of these areas, I would argue, is evidence that consumer protection is indeed alive and well. They are illustrations, as well, of the types of issues that would benefit from your consumer research and your help in understanding the actual impacts of all our policy options.

Let me begin with the area that has been a major focus for me for the last several years. The most deadly product ever sold. The product that has killed more Americans than all our wars combined: tobacco. Two and a half years ago, my office became the second state to sue the tobacco industry, and the first to sue it for consumer fraud, for having misled the public for decades about the hazards of its products. Today, 22 states have filed suits.

Minnesota's case is still nine months from trial.

but the wheels of justice are beginning to turn. I'm sure you heard about our historic settlement two weeks ago with the smallest of the major tobacco companies, Liggett, in which they admitted nicotine is addictive; they admitted the tobacco industry markets to children; they admitted cigarettes cause cancer and heart disease and emphysema and, most importantly, they agreed to turn "states evidence" to help us show a jury how this industry has lied and conspired for more that forty years. So the day of tobacco justice is drawing nearer.

In the meantime, states are finding other ways to protect their consumers from this deadly product. In Minnesota, we are about to pass landmark legislation to require licensing and regular undercover checks of every store that sells cigarettes, to see that they don't sell to children. In Massachusetts, they've already passed historic legislation to force the tobacco companies to identify for the first time the hundreds of exotic chemicals they add to their cigarettes, from ammonia to paint thinner. When the list becomes public, smokers nationwide will get the benefit of this important new state initiative.

Let's take another product that can be destructive and deadly: alcohol. This year our Minnesota legislative is debating proposals to address the marketing of alcohol to kids. As one of ten attorneys general who have petitioned the FCC not to allow the introduction of liquor commercials onto television, I was also pleased to see that just yesterday, President Clinton has asked the FCC to look into the possibility of restricting these ads.

I predict we will devote increasing attention to this area in the years ahead. Today we all know who Joe Camel is. A few years from now, it is quite possible that we will be equally concerned about the next "Spuds MacKenzie" (remember him?) or the Budweiser frogs or whoever the next youth-oriented character in the beer and liquor ads may be.

I can tell you I was startled to see the kinds of pre-packaged mixed drinks that are being sold these days. They call it "lunchbox booze". It comes in cute, colorful little throwaway containers. Some of them look like the little plastic tubs of Jell-O. Some look like the little tubes of fruit juice. One vodka drink is marketed under the name "oatmeal cookies". And teachers say they're showing up in kids' lunchboxes. So you expect to see more activity in this area.

A third area is already being addressed in a majority of the states, and is even making its way into Congress. I'm talking about creating better rights and protections for patients in managed health care plans. In Minnesota, most of our consumers are already in managed health care. We are working in our legislative right now, to try to guarantee those patients some basic rights. We want them to know whether their doctors have financial incentives not to refer them to specialists. We want to guarantee that their doctors aren't gagged from talking about certain treatment options. We want patients to have meaningful remedies when coverage is denied or their treatment options are limited. We want them to have access to arbitration and appeal systems. This is an immensely important subject. I am very pleased that the President has appointed a national panel to develop recommendations for the federal government in this area, and I hope they will be bold and creative. I can't think of an area more in need of consumer protection.

A fourth example, also from the field of health care, involves genetic testing. Minnesota and a handful of other states have recently banned insurance companies from turning down a consumer for insurance coverage because of genetic testing information about the consumer. As medical science expands its ability to predict, or guess, which of us may be pre-disposed to develop certain types of cancers or any number of other diseases at some point in our lives, do we want insurers to have access to genetic screening tests, or even to insist on them, to decide which of us they may want to blackball? In Minnesota, we have already said "no".

Example number five is also from the field of health care. A few years ago, my office developed what we think is still the only law in the country that prohibits pharmaceutical companies from giving extravagant gifts to physicians to encourage them to prescribe that companies' products. Our law leaves room for legitimate expenditures like medical research, but it puts an end to the expensive gifts, posh travel and phony "consulting fees" that were once common. One dinner theater complained to us that they've lost a quarter of a million dollars annually in pharmaceutical company business since we stopped the drug companies from wining and dining all the doctors in town, but other than that, the law seems to be working pretty well!

Another important area, in fact one worthy of a separate discussion, is the work states are doing to address the new issues raised by the Internet. We are enforcing our traditional fraud laws. In fact, my office recently obtained what we think is the first court decision upholding a state's ability to enforce its consumer fraud laws against the operator of a distant Web site - in this case a Las Vegas promoter of illegal gambling activities, which he claimed were being stored on a computer in Central America! States are also beginning to look at the important area of Internet privacy, both with regard to the information that may be captured about you, without your knowledge, as you surf the Web, and with regard to marketing to children. I'm sure many of you are already focusing research on this area. Believe me, we need all the help we can get in figuring out all the new issues this technology will raise, and in deciding how we nurture this medium while maintaining a framework of law and honesty.

Seventh on my list is another area worthy of a separate discussion: the beginning of the de-regulation of the electric industry. Utility regulation has been a state function for nearly a hundred years, but we are just beginning to think about how we might design consumer rights for a new competitive environment. This is another area ripe for your ideas and input as we begin to plan for a whole new area. In our state, that effort became even more complicated when our largest electric utility announced that it proposes to merge with the largest electric company in our neighboring state of Wisconsin. So much for the new era of competition!

My eighth area of activism is a perennial favorite: automobiles. Here one of the hot topics continues to be one we have been trying to sort out for several years, through litigation, in rulemaking proceedings at the Federal Reserve Board, and through consumer education: auto leasing, especially the need to eliminate deceptive practices and give consumers better disclosure of the hidden terms of the transaction. Here, Minnesota's legislature has not yet acted, but those in a number of other states have.

Looking ahead, we can almost guarantee a major restructuring of the auto industry over the next decade. The expansion of auto sales on the Internet, and the rapid emergence of high-volume, no-haggle auto "superstores", such as the AutoMax stores being developed by Blockbuster Corporation, or Circuit City's AutoNation stores, hold the potential to completely transform the way cars are sold, and to re-define the car-buying experience in the process.

Ninth on my list is another favorite, landlord-tenant problems. This year, the landlord-tenant issue for us in Minnesota is an amazing provision we found in some leases. As you may know, some cities penalize landlords if their buildings become nuisances that requires constant police visits. We found that some landlords in these cities have actually been re-writing their leases to prohibit their tenants from calling "911" when they are victims of domestic abuse. We've found battered spouses were not only abused, but who were actually being evicted from their apartments because they called the police to seek protection from their abusers! We're taking care of that one, I assure you.

Last, but not least, states are actively pursuing consumer problems involving financial services. This year, my office is focusing on two subjects. The first is private mortgage insurance. Maybe you never heard of it. That doesn't mean you're not paying for it. Got a mortgage? Then you probably bought PMI, to protect you lender in case you default. You pay for it every month. And if your equity in your house is now equal to at least twenty percent of its value, and if you haven't canceled your insurance, then you're probably paying too much on your house payment. Last year, we wrote a law in Minnesota requiring lenders to let consumers know when they are entitled to cancel the insurance. The Congress is now moving quickly to do the same thing. Representative Jim Hanson from here in Utah, has been a real leader on this issue and is working closely with my office. The other Congressional sponsors of bills in this area include--get this--Representative Joe Kennedy and Senator Al D'Amato. With a combo like that, it must really be a good idea.

Looking ahead in the field of financial services, we are concerned about the expansion and under-regulation of the whole field of so-called "fringe banking" services that substitute for standard credit sources for low income consumers, including check cashing services, pawn brokers, rent-to-own companies, and so on.

Well, that's just a "sampler" of ten issues. But I hope it gives you a sense of the activism that is alive across this country today. And I hope it will encourage some of you to direct some of your thinking and research into some of these areas, to help us think a little more intelligently about our options the next time someone gives the command to "get ready,...fire,...aim!"

Finally, I cannot leave without saying just a word about perhaps the most fundamental consumer protection issue of them all. An issue that underlies every one of the subjects I've talked about today, and many, many others. An issue that goes a long, long way toward explaining the frustration and lack of progress that many consumer advocates feel today, and that helps explain why it is so difficult for us to achieve real solutions in many of these areas. I'm talking about an issue that we don't usually think of as a consumer protection issue, but that is, in a sense, the mother of all consumer protection issues.

I am talking about campaign finance reform.

Until we get serious about addressing the all-pervasive role of money in the electoral process in this country, we will continue to have a hard time stepping up to our other problems or making the hard choices that we so desperately need to make in any number of areas. Whether the issue is health care reform or the regulation of tobacco, tax reform or the Clean Air Act, or any other issue that implicates powerful interests, the deadening influence of money, and the relentless chase for campaign funding, are crippling our democracy's ability to do what's right. And so I want to leave you today with a plea, that as you think about consumer protection, and as you set your own priorities, whether for your research or teaching, or to get involved as advocates, I hope you will keep this issue of money and politics right up there at the very top of your list. I guarantee you, if you can help us lick that problem, all the rest of this stuff with fall right in line, believe me.

So let's make that our consumer protection priority, and let's find a way to tackle it together. If we do, we won't ever have to worry about the future of the consumer movement in this country or about our ability to take on even the most difficult issues.

Thank you very much.

Consumer Policy Perspectives: A View from Washington

Leslie Byrne, Special Assistant to the President
Director, U.S. Office of Consumer Affairs

Since my appointment by President Clinton last August, I have been meeting and listening to people representing every perspective on consumer issues--people from consumer and community-based organizations, educators, businesses and trade association, law enforcement and regulatory agencies, the media, and elected officials. I'm pleased to see many of you here today.

I understand that most of you are consumer educators. I want you to know that we in the United Sates Office of Consumer Affairs share your mission of empowering consumers with information.

The mission of our office is to help shape and advance the Administration's consumer policies; to provide leadership and coordination to Federal consumer programs; to be a consumer advocate, both within Federal policy development process and national and international fora. However, our major responsibility is to inform and educate consumers so that they have the necessary tools to make rational and informed decisions in the marketplace.

We educate, inform, and protect consumers through our coordination of National Consumers Week activities, through the conferences and other forums we sponsor, through our participation in government rulemaking, through our participation in public/private partnerships, through media opportunities; through our toll-free Consumers HELPLINE and through our Consumer's Resource Handbook. Our Handbook provides information and advice to help consumers learn about their rights. How to protect themselves against unscrupulous practices and how to make the right choices. I am pleased to learn that some of you are using our Handbook as a teaching tool in classroom and community settings. It is available on-line through the Consumer Information Center at www.pueblo.gsa.gov.

In concert with President Clinton's emphasis on service, we instituted a toll-free HELPLINE, providing consumers instant access to information to assist them in getting problems resolved, as well as providing the facts they need to make informed decisions. The entire USOCA staff, including the Director, staff the HELPLINE. Our number, 1-800-664-4435, is available in every state and U.S. territory and is staffed at 10:30 a.m. to 2:00 p.m., eastern time. Consumers receive call backs when they leave messages during non-staffed hours.

The HELPLINE has been especially useful in providing a window on the public's reaction to development in the marketplace long before the media or researchers can identify them. Dialogues with companies, trade associations, consumers and regulatory agencies have followed. In some cases, due to the industry being made aware of consumer problems, action has been taken to eliminate the need for new regulations. This is in keeping with the President's initiative to eliminate unnecessary regulations.

Calls are logged into a database to help us keep abreast of new trends such as fraudulent schemes in telemarketing, sweepstakes, and pay-per-call and long distance telephone billing. It tracks consumer complaints on automobile repair, home maintenance. Other areas generating frequent calls are credit reporting and credit harassment, direct marketing and mail order complaints, insurance, mobile homes, Social Security and Medicare, student loans, and airlines.

As the President's consumer advisor, I also chair the Consumer Affairs Council, created by President Carter to provide leadership and coordination to ensure that agency consumer programs are implemented effectively; to maximize effort, promote efficiency and interagency cooperation; and to eliminate duplication and inconsistency among agency consumer programs. The Council includes senior officials from 40 Federal Departments and Agencies who are responsible for policy direction, coordination and oversight of the agency's consumer activities.

The Council has been a very effective means of coordinating interagency initiatives and developing effectual responses to consumer issues that cut across agency jurisdictions. It is an especially valuable instrument in accomplishing such Presidential initiatives as strengthening agency performance and responsiveness to citizens, as well as enhancing Federal consumer protection and information programs.

The Council meets quarterly. We are currently planning our next meeting which will be on April 24 at the White House.

Consumers today are at a crossroads-new technologies are transforming the marketplace with breathtaking speed. These changes bring real benefits and opportunities. But they also bring new challenges to a marketplace that already has too many. In this brave new marketplace USOCA is focusing on privacy and fraud.

Fraud is a blight on our marketplace. It hurts everyone and it hurts them big time--health care fraud alone is estimated by the General Accounting Office at ten percent of the nation's total annual expenditure on health care of about a trillion dollars--ten percent of which is a tidy one hundred billion dollars. Privacy--that is, the control and security of personal information--is as important a concern to us as fraud. It is also closely related. A lot of telemarketing, credit, investment, and health fraud derives directly from improper use of personal information. USOCA has a long-standing interest and involvement in privacy issues.

Since 1989, the Office has strongly advocated disclosure of exactly how personal information will be used, and an opt-in mechanism permitting consumers to control the use of information for other purposes.

This applies to government as well as business. Consumers are required by law to provide information to state and local government agencies which is frequently sold for commercial purposes, resulting in uses to which some consumers may object. In some cases, it falls into the hands of people who use it for fraud.

I believe disclosure and "opt-in" remain effective tools for consumers in controlling the use of our personal information. I also believe that data users and collectors, whether businesses or government agencies, can use such fair information policies as an effective strategy for customer or constituent service, given the extensive and growing consumer concern about privacy.

It is USOCA's belief that the need for information by government and industry can be balanced with consumers' desire to preserve their privacy and control the use of personal data. Our goal is to protect consumers while encouraging growth and innovation in the use of telecommunications and information management technology. We find that industry shares our belief that a balance can be struck without unnecessary and burdensome regulation.

We will continue to work with industry, government and consumers to achieve this goal. To lead by example we propose the: **Justice Louis Brandeis Award.** This honor, named for Justice Louis Brandeis, is an ward USOCA will be presenting annually to various business, non-profit, government, and consumer organizations for outstanding efforts of privacy protection, particularly in areas where technological advancements encroach on personal privacy. I welcome your recommendations.

There is no question that privacy is a major consumer concern. Just last week, two studies were released which found that Internet users were so concerned that marketers would misuse their personal information that many suffers have shied away from commercial interactions online. The first study for the Electronic Frontier Foundation and Commerce Net found "94% of the 9,300 online respondents would not be comfortable giving retail, medical, or financial information to firms they would have no dealings with." However, if privacy were assured, respondents would be "40% to 50% more likely to undertake a transaction.

The second study from Cyber Dialogue, an online research and database firm, found that "92% of respondents would answer questions about hobbies and special interest: 67% would give their names; 29% would indicate their salaries; an only 4% would give their credit card numbers." In both studies, the respondents indicated that they would be more comfortable and cooperative if they were told how the information would be used.

USOCA has no regulatory authority, but we directly impact proposed legislation and regulations being considered by Congress and the Administration. USOCA is regularly solicited for input or comments on proposed legislation, regulations and reports. These include such complex issues as privacy, emerging technology, the global marketplace, anti-terrorism, debt and credit, and fraud. USOCA functions as the sounding board on consumer issues for buyers, sellers, all levels of government, neighborhood groups, and consumer organizations. We are, in fact, the consumer's voice in the decisions of government and how proposed legislation and regulations impact their lives.

In addition to our domestic role, we represent the interest of U.S. consumers in the international arena. The world stands at the doorstep of a great expansion of cross-border consumer transactions. Interest in the changing global marketplace and how it affects consumers is widespread among businesses, consumer advocacy groups, educators and world leaders. As consumer policy issues are increasingly internationalized, the need for effective mechanisms for the exchange of critically important consumer information, product safety, and efforts to counteract fraud and deception in the marketplace becomes more urgent.

As head of the U.S. delegation to the Committee on Consumer Policy of the Organization for Economic Cooperation and Development (OECD), we have taken a leading role in the areas of product safety, lowering tariff barriers for services and consumer redress in the global marketplace.

Just last month, the Committee hosted a two-day Conference on Electronic Commerce at its headquarters in Paris. More than 300 representatives of member-country delegations, industry, academia and consumer organizations participated in discussions about the rapidly changing marketplace that increasingly relies on the new technologies to serve customers. Issues included privacy, transactional data, virtual money, internet operating environment and the role of business and government in international consumer protection.

We will continue to work to ensure the security of transactions and the implementation of a trans-border mechanism for redress in the global electronic marketplace.

In Utah, and through out the west there is still a tradition that everyone deserves a fair shake. That is what I am after, a Fair Shake Marketplace. This is the theme that we have selected for National Consumers Week, October 25-31. I encourage all of you to plan activities in your schools, organizations, businesses and communities during the week.

"A Fair Shake Marketplace." Perhaps that is something of a high-sounding phrase, but to me it simple mean fairness--fairness to consumers and fairness to honest and ethical businesses.

On Tuesday, I was pleased to speak at the Council of Better Business Bureaus' 1997 Torch Awards Luncheon. Awards were presented to a small, medium, and large-size business for consistently demonstrating high ethical business practices.

In my remarks, I discussed the importance of "honesty" and "clarity" and congratulated the winners for "recognizing that the bottom line benefits of outstanding customer service and ethical practices continue to be the most effective means of retaining customers and enlarging market share."

Since 1974, when the U.S. Office of Consumer Affairs completed the first of its landmark studies of consumer complaint handling in America, customer service has been a major issue for the Office. Our second study, an update of the first one, found that many major companies had paid attention to our earlier findings, and had very profitable invested in major upgrades of their customer service departments. Our work helped to usher in what seems to be an age of aggressive, proactive customer service.

In 1994, President Clinton added the Right to Service to the Consumer Bill of Rights, established by President John F. Kennedy in 1962. These include the Right to Safety, Information, Choice and the Right to be Heard. President Gerald Ford added the Right to Consumer Education in 1975.

In adding the Right to Service, President Clinton said, "Americans understand that good service means the commitment to consumers that their experiences in the marketplace will meet all reasonable expectations of civility, responsiveness, convenience, performance and fairness."

I want to briefly share with you some of our more recent consumer education and outreach initiatives.

We have been working in partnership with educational organizations to help improve the personal financial literacy of our children and young adults. These include the National Council on Economic Education, Jump $tart Coalition for Personal Financial Literacy, and the National Coalition for Consumer Education. The goal of all of these programs is to generate excitement about learning among all of our students.

The critical need for education about personal finance and the responsible use of credit was reinforced by the Consumer Federation of America's report on Credit Card Debt. According to the report, released in February, "Consumers charged more that $1 trillion on credit cards in 1996, alone." The report concluded that "while consumers bear responsibility for the debts they incur, the most important reason for the ever-expanding debt was the relentless, aggressive credit card marketing by the issuers."

These findings come as no surprise to me or to many of you. Since last August, I have conducted several consumer education workshops for young military recruits through the Family Support Unit of the U.S. Army Community Services. These young people are having major credit and debt problems because they did not learn basic money management skills in school. Their problems affect us all because their concerns and preoccupation with credit and debt problems at homes most assuredly affect combat readiness.

I have met with Carolyn Becraft, Deputy Assistant Secretary of Defense for Personnel Support, Families and Education, Jeanne Hogarth, Federal Reserve Board, and I are currently working with military family counselors in developing and putting in place a training program for service persons and their families. I welcome your recommendations and support on this initiative.

Two weeks ago, I participated in a conference on Reinventing Consumer Partnerships which was held in Atlanta. The conference brought together government officials, representatives of community-based organizations and African American ministers to discuss the potential impact of the new Welfare Reform Legislation.

Although the intent is that welfare recipients will be trained to become employable and then helped to find a job, we know that simply teaching people marketable skills does not begin to equip them to function in an informed way in the marketplace. With whatever salary they are able to command, they have to meet their consumer needs. They and their families need housing, food, clothing, energy, transportation, a telephone, health care and, in many cases child care. To make things tougher, the sad fact is that the poor pay more for virtually everything than the more affluent.

Add to these problems, the fact that they will be targeted for certain types of fraud, such as employment and job training scams and phony work-at-home schemes.

Clearly, this is an area where consumer education is crucial. I am continuing my discussions with Secretary of Health and Human Services, Donna Shalala, and the Interagency Committee addressing welfare reform issues. I have also met with Jane Schuchardt of the Department of Agriculture and ACCI's President Elect to discuss the possible role of the Extension Service network in providing consumer education.

I will continue to focus attention on the need for consumer education for all of those moving from welfare to workfare.

Finally, I want to report to you that I have proposed a White House Conference on Consumer Issues to be held in October 1998. As we have moved from and industrial based economy to a service and information economy, we have been forced to change our thinking about what has traditionally been accepted as consumer issues and products. Unfortunately, the nation's response to the new challenges this creates for consumers, has been slow. We are proposing a new look at consumerism brought about by this profound shift in the economy. The consumer rights associated with tangible products are more difficult to ascribe to non-tangibles like services and information. I believe a White House Conference would provide a national focus and begin a dialogue on this new paradigm.

We have never had a full fledged White House Conference on Consumer Issues and I am excited about the prospect. However, I know it is going to take a great deal of resources and hard work to plan and coordinate. As we begin the dialogue at the grassroots level, we will need your assistance, support and partnership on this important initiative.

On March 21, the Council for Excellence in Government released the results of a survey on American Confidence in the Federal Government. Seventy percent of the respondents listed "protecting consumers and protecting the environment as the most important successes of the Federal Government during the last 30 years."

We are working hard to maintain that confidence. I have outlined briefly some of our initiatives designed to educate and protect consumers, as well as maintain the integrity of the marketplace.

We are currently exploring ways to expand our outreach and more effectively get consumer messages out to those consumers who do not read the hundreds of pamphlets. Brochures and other material published each year. We are learning that in this newly emerging information and service-based economy, the old consumer education remedies--the old (traditional) methods of educating consumers are passe (no longer effective).

We need to take advantage of the Media and rapidly expanding technologies to educate the public. Perhaps we could combine our efforts by focusing national attention on one consumer issue each month.
you and welcome your ideas.

Consumers' Response to Credit Card Solicitations

Credit card issuers have heavily marketed their cards via mail solicitations. Previous studies show that a variety of economic, demographic, and attitudinal characteristics, along with card features, explain consumer credit. Using primary data from Michigan's Survey Research Center, we found scant support for socio-economic characteristics as determinants of applying for a credit card; attitudinal variables are important in our models.

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Introduction

In 1996, 2.4 billion credit card solicitations ended up in U. S. consumers' mail boxes. Credit card companies have learned to package their solicitations and credit card products to appeal to a range of consumer desires, from low interest rates to frequent flier miles.

Data from the 1992 Survey of Consumer Finances show that 73 percent of American households had at least one credit card account, and of those, 85 percent had more than two credit card accounts, with an average of five accounts held by all card-holding families (Canner and Luckett, 1992; Kennickell and Star-McClure, 1994). In 1995, 48 percent of household carried over a balance on their credit cards, up from 43 percent in 1992; the average balance carried over was $1500 (up from $1000 in 1992)(Kennickell and McClure, 1994).

Outstanding consumer credit is at an all time high. Consumer installment debt stood at $1.21 trillion in February, 1997, up 8 percent from the previous year. Revolving debt, the type most associated with credit cards, stood at $480 billion, up 12.9 percent from the previous year (Federal Reserve, 1997). Delinquency and charge-off rates for consumer loans are rising and consumer bankruptcies stand at a record 1.1 million in 1996. These numbers only speak to the macroeconomic losses our economy suffers when households overextend themselves. At the personal level, the losses are as great. Families lose homes and possessions. They have poor credit records but must function in a society where one's credit record is the key to access many goods and services. In this environment, it may be helpful to learn what factors are associated with consumers' response to the numerous credit card solicitations they find in their mail boxes.

The objective of this paper is to explore the factors associated with consumers applying for a credit card in response to a mail solicitation.[3] By gaining a better understanding of these factors, consumer educators can better educate and advise consumers about choices they face and policy makers may be better able to tailor disclosures to consumer needs.

Previous Studies

Factors Associated with Holding Credit Cards

Kinsey's 1981 study explored the probability of having credit cards, as well as estimating the number of credit cards held by households with certain characteristics. Significant factors associated with having a credit card were income level, home ownership, having a positive attitude toward credit, and holding checking and savings accounts (Kinsey, 1981).

Canner and Cyrnak (1985) analyzed the card holding and use patterns of households in the U.S. based on the 1983 Survey of Consumer Finances. They found that card usage was positively associated with family income, educational attainment, age, liquid assets, being "financially sophisticated" (use financial services such as mutual funds), owning a home, and being married.

Along with education and income, Lindley et. al (1989) found that nonwhite respondents were less likely to hold a card; one-third of Hispanic individuals held credit cards. In part this may be due to supply-side factors, but it may also be due to high levels of distrust of financial institutions within the Hispanic community (Higgins, 1994).

The characteristics of the cards may determine who holds them. Consumers who use credit cards as a payment device look for different characteristics in a card than consumers who revolve their credit card debt. Convenience users are most likely to focus on the level of any annual fee, the length of the grace period, the availability of desirable enhancements, and the credit limit. Revolvers are mainly concerned with the interest rate that they will incur when they roll over part of their balances (Canner and Luckett, 1992).

A 1995 survey of credit union members found differences in card use by gender and age. Income and area of residence were also significant determinants of credit card usage. Respondents in urban areas used their cards more than twice as much as rural cardholding members (Schenk, 1995).

Ryan (1995) found that consumers who are younger, have moderate incomes and have "monetary needs caused by some recent life event, such as relocation, a home purchase, birth of a child and so forth" are more likely to be credit users. After the purchase of a home, a consumer is four times as likely as the population base rate to borrow money, including credit card debt as well as other forms of credit.

Using data from the 1983 SCF, Duca and Whitesell found that households who were headed by males, who were in rural areas, or who were relatively large were less likely to have credit cards. Households whose heads were married, white, or high school or college graduates were more likely to own a card. The probability of having a credit card was negatively associated with holding a checking account, money fund balances, and total transactions deposits (Duca and Whitesell, 1995).

While most studies have shown that income is positively associated with holding a credit card, and in some cases with revolving credit card debt, use of credit cards has risen in the lower income brackets as well. The percentage of households earning less than $10,000 annually and holding card debt nearly doubled between 1989 and 1992, from 13.4 percent to 23.7 percent (Credit Card Management, 1995). Thus, there may be more opportunity to observe a wider range of behaviors across income categories than previously.

Response to Solicitations

According to the BAI Mail Monitor, 2.7 billion solicitations were distributed by credit card companies in 1995, with a resulting 1.2 percent response rate (or a total of 32.4 million applications) (Block, 1995). One early study of consumer's response to credit card solicitation found that once consumers obtain a card, they tended to disregard future solicitations even though these may contain offers for lower interest rates (Sullivan, 1988). Only 20 percent of cardholders read solicitation material about new cards. Those who responded to mail solicitations were revolvers, young cardholders and households with annual incomes over $50,000.

The 1995 credit union member study showed that 95 percent of those with a major credit card had received solicitations, with an average of 3.4 solicitations per month. Older, wealthier members who were convenience users were more likely to receive a mail solicitation. Of those solicited, 17 percent applied to change cards. Younger members and revolvers were more likely to apply for a new card. Reasons for applying included: solicitation offered better rates or terms (nearly two-thirds of those who applied); respondent wanted additional credit (about one-fourth); respondent wanted a variety of cards (15 percent) (Schenk, 1995).

Summary

These studies show that a variety of economic (income, liquid assets, checking and savings accounts, home ownership, financial sophistication), demographic (age, education, marital status, family size, race, gender, area of residence, occupation), life events, and attitudinal and behavioral (convenience user or revolver) characteristics along with credit card characteristics (interest rates, fees) influence whether or not consumers hold credit cards. Some of these same characteristics may be associated with responsiveness to credit card solicitations. Many of the proprietary market research studies on solicitations, however, have not reported any multivariate analysis of who responds to solicitations -- a situation this paper will address.

Proposed Model

Data

In December, 1995 and January, 1996, Michigan's Survey Research Center collected data on consumers' behaviors and understanding of credit card solicitations. The Surveys of Consumer Attitudes were administered to 1000 households across the two month period. The Survey of Consumer Attitudes is a monthly telephone survey of consumers, which collects information used to construct the Survey Research Center's Index of Consumer Sentiment. Each month the Survey Research Center surveys individuals in about 500 households. In the December and January Surveys, consumers were asked whether or not they had received and/or responded to a credit card solicitation in the past 3 years. If so, they were asked about some of details of their application.

Variables

While some of the variables in previous studies were included in the Surveys of Consumer Attitudes, others were not. Therefore, the complete model posited above

Response to Solicitation = f (Economic, Demographic, Life Events, Attitude towards Credit, Credit Behavior, Card Characteristics)

cannot be tested empirically with the data at hand. However, the data do contain substantial information about economic and demographic factors as well as attitudinal factors which may provide some insights. A complete listing of variables used is contained in Table 1.

We included an age-squared variable to account for the curvilinear relationship found by some researchers. Experience in working with these data lead us to include education as a categorical rather than continuous variable. It is also the case that interpreting education effects and noting policy or consumer education implications is easier when education is categorical rather than continuous.

The reason for using Hispanics as the comparison category in the race-ethnicity variable is again based on experience with these data. Because this is a phone survey, interviews with Hispanic respondents may be carried out in Spanish or in English, something that many other surveys do not do. In other analyses with these data, Hispanic respondents were significantly different from others in some aspects of credit use. Using Hispanics as the comparison group allows us to explore these differences further.

Estimating the Models

Because we are interested in the probability of responding to a credit card solicitation and because we have a 0-1 dependent variable, the empirical models were estimated using Probit.

Table 1.
Dependent and Independent Variables

Dependent	
Apply	= 1 if applied in response to solicitation, 0 otherwise
Independent	
Socio-Economic	
Income	Annual household income in dollars (continuous)
Age	Respondent's age (continuous)
Age^2	Respondent's age squared
Education1	= 1 if respondent has high school diploma, 0 otherwise
Education2	= 1 if respondent has post-high-school education, 0 otherwise
Education3	Omitted category is respondents with less than high school education
Gender	= 1 if male, 0 if female
Race-Ethnic1	= 1 if white, 0 otherwise
Race-Ethnic2	= 1 if African- or Asian-American, 0 otherwise
Race-Ethnic3	Omitted category is Hispanic respondents
Marital Status	= 1 if married, 0 otherwise
Kids<18	Number of children under 18 in household (continuous)
Homeowner	= 1 if own home, 0 otherwise
Attitudinal/Behavioral	
Info Unclear	= 1 if respondent thought information in card solicitation was not clear, 0 otherwise
Expect Better	= 1 if respondent expects to be better off financially next year, 0 otherwise
Expect Interest	= 1 if respondent expects interest rates will go down next year, 0 otherwise
Expect Income	= 1 if respondent expects income will go up faster than prices during the next year or two, 0 otherwise
Use Credit Now	= 1 if respondent is using credit more now than 3 or 4 years ago, 0 otherwise
Use Credit Future	= 1 if respondent expects to use credit more in the next year, 0 otherwise

However, Probit coefficients need to be transformed to be read as marginal effects on the probability of applying or transferring a balance. Therefore, we also estimated these models using Ordinary Least Squares and report the coefficients which can be directly interpreted as marginal changes in probabilities.

Results

Sample Description

A vast majority of the respondents (914 of the 1000) had received at least one mail credit card solicitation over the past three years. All data analysis was based on these 914 respondents (In the interest of space, tables for the descriptive data have been omitted; they are available from the authors). Of those receiving credit card solicitations, over one-third (35%) responded to at least one of these solicitations by applying for the advertised card. Nearly one-third (30%) of those who applied for a card also asked to transfer a balance to that new card. Nearly one-fourth (23%) of these could be classified as "rate surfers" -- people who had previously transferred a balance at least once before.

Most of the respondents (94%) applied for a general purpose credit card (Visa, MasterCard, Discover, Optima); another 10% reported applying for a store charge card. Fewer respondents reported applying for a travel and entertainment card (4.5%) or a gasoline company card (3.8%).

Overall, about one-fourth (24%) of the respondents thought the information included in the mail solicitation was not clear nor accurate. Those who did not apply were more likely to say that the information in the solicitation was not clear. Nearly one out of three (30%) of those who did not apply thought the materials were not clear and accurate, while only one out of seven (14%) of those who applied thought the information was not clear and accurate.

The Survey of Consumer Attitudes also asks consumers whether or not they think they will be better off next year, what their expectations for interest rates and income are, whether they are using more credit now than three or four years ago, and whether they think they will use credit more in the upcoming year. Two out of five consumers (40%) thought they would be better off next year. People who did not apply for a credit card were a bit more likely to think they would be better off than those applied (40% versus 37%, respectively).

One out of five consumers (20%) thought that interest rates would go down over the next year. People who applied for a credit card were slightly more likely to think that rates would go down than those who did not apply for a card (21% versus 20%, respectively).

One out of five consumers (20%) thought that their family income would go up more than prices over the next year. Surprisingly, those who applied for a card were less likely to think their family incomes would rise faster than prices, compared to consumers who did not apply for a card (16% versus 22%, respectively).

One out of five consumers (21%) report that they are using credit cards more now than they did three or four years ago. People who applied for a credit card were more likely to report more credit use than those who did not apply for a card (22% versus 20%, respectively).

Only 5% of consumers reported that think they will be using credit cards more in the next year than they do now. However, people who applied for a credit card were twice as likely to report higher expected credit use than those who did not apply (6% versus 3.7%, respectively).

Model Estimations

Results for the probability of applying for a credit card presented in Table 2. The only two significant determinants of applying for a credit card in response to a mail solicitation were whether or not respondents thought the information in the solicitation was clear and whether or not respondents expected their income to rise faster than prices.

Respondents who thought the information was unclear had a substantially lower probability of applying for a credit card. The estimated probability for the full sample was .58; the estimated probability for those who thought the information in the solicitation was unclear was .36. This is as expected, and should be good news to consumer educators who have spent years trying to get through to consumers the need to understand credit terms.

Those respondents who expected their incomes to rise faster than prices were somewhat less likely to apply for a credit card. Compared to the full sample probability of .58, those who expected income to out pace prices had a probability of .49. Again, this is as might be expected. If families think their incomes will go up faster than prices, they may see less need to use credit in the foreseeable future. On the other hand, another way to look at this finding is that families who don't expect incomes to rise as fast as prices are more likely to apply for a credit card, possibly taking on more credit to bridge the income-expense gap they foresee.

Summary and Conclusions

In this paper we explored the factors associated with consumers applying for a credit card in response to a mail solicitation. Unlike previous researchers, we found scant support for socio-economic characteristics as

Table 2.
Model Estimates for Probability of Applying for a Credit Card in Response to a Mail Solicitation

Variable	Probit Coefficient	Prob.	OLS Coefficient	Prob.
Intercept	.235	.564	.422	.006
Socio-Economic				
Income	-.192E-5	.204	.739E-6	.193
Age	-.012	.457	.004	.492
Age^2	.136E-3	.427	-.483E-4	.457
Education1	.093	.621	-.037	.595
Education2	.015	.933	-.008	.897
Gender	.104	.304	-.039	.305
Race-Ethnic1	.092	.638	-.034	.642
Race-Ethnic2	-.060	.807	.021	.816
Marital Status	.004	.965	-.001	.972
Kids<18	-.041	.413	.014	.434
Homeowner	.029	.813	-.013	.776
Attitudinal/Behavioral				
Info Unclear	.605***	.001	-.219***	.001
Expect Better	.080	.471	-.031	.450
Expect Interest	-.043	.729	.018	.699
Expect Income	.236*	.092	-.088*	.093
Use Credit Now	-.058	.648	.021	.651
Use Credit Future	-.261	.279	.098	.280
N	679			
Applied	284			
Did not apply	395			
prob(apply)-- at means	.58			
Goodness of Fit Measures				
Log Likelihood	-442.298		R-square	.054
Chi Square	884.597		F value	2.234
Prob (Chi square)	.000		Prob (F) .003	

* Significant at .10 or better
*** Significant at .01 or better

determinants of applying for a credit card. In part, this may be a vestige of the marketing scheme of financial institutions who send out mail solicitations. Many of these solicitations are "pre-approved" in that the credit records or credit scores of households have been pre-screened in the process of developing the mailing list. Therefore, the sample of households who receive these solicitations is more homogeneous than other samples used to model the credit decisions of households. Given this potentially homogeneous nature of the socio-economic characteristics, it is no wonder that the attitudinal variables became so important in our models. However, we would argue that attitudinal variables are also key even when there is more variability in the socio-economic characteristics in the sample. Thus, we encourage researchers to continue to utilize these important taste and preference shifters in their work.

Consumer educators and policy makers should be heartened by the news that some consumers are reading the details and disclosures of these solicitations and rejecting them when they seem unclear.

Finally, it is important for credit grantors and consumers alike to understand both the micro- and macro-economic consequences of their decisions. Credit is an important tool in our economy, enabling many families to manage their resources more efficiently and effectively. However, as creditors extend credit to higher and higher risk consumers, they face higher charge-off rates, placing both families and financial institutions at risk.

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Endnotes

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3. Other analysis on balance transfers contingent upon responding to a mail credit card solicitation is not reported here due to space constraints. Information is available from the authors.

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The Welfare Impact of Apparel Price Increases: Who Get Hurt More, the Poor or the Rich?

Consumers' welfare losses due to price increases in apparel were estimated across different levels of income using the Hicksian equivalent variations, which were computed as percentages of consumer utility generated from apparel consumption. Using a combined data set of the 1980-1992 Consumer Expenditure Survey, the 1980-1992 Consumer Price Index and the 1990 ACCRA Cost of Living Index, it was found that the welfare loss was higher for poor households than for richer households.

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Introduction

Hufbauer and Elliott (1994) estimated that tariffs and quantitative import restrictions in place in 1990 costed American consumers about $70 billion, more than 1 percent of GDP. More than a third, $24 billion, of these consumer costs were attributable to textiles and apparel alone. Since the Multi-Fiber Arrangement, textiles and apparel industry has received more comprehensive and persistent protection than any other industrial sector (Cline, 1990). And this trend still continues, despite the general trend toward trade liberalization: Vosko (1993) examined the extent of trade liberalization between Canada and the U.S. in the textiles and apparel goods chapter of the NAFTA and found that while moderate liberalization was achieved in textile trade, protectionism was increased in apparel trade. Also, recently, the U.S. Committee for Textiles and Apparel (CITA) notified the Dominican Republic, Columbia, Costa Rica, El Salvador, Honduras, Thailand, Turkey, and Jamaica that it plans to limit their exports of apparel (Turck, 1995).

Restriction of the supply of imports tends to raise their prices, and as import prices rise, the prices of competing domestic goods tend to rise in response (Cline, 1990; Dardis, 1988). Chen (1994) estimated the potential effects of a bilateral free trade agreement in textiles and apparel between the Colombia and the U.S. and concluded that such an agreement will lower consumer prices and raise consumer income by $373 million. Consumer welfare loss due to apparel price increases, which often caused by trade restriction, is the focus of this study.

Since consumers with different levels of income respond to price changes in Apparel differently, with lower-income consumers being more own-price elastic than higher-income households (Fan, Lee & Hanna, 1996), consumer welfare loss due to apparel price increases can also vary across the different income levels.

Furthermore, trade restriction often raises prices at different rate depending of the value of apparel products (Christerson, 1994; Christerson & Appelbaum, 1995). For low-value apparel products which tend to compete on price, the impact of trade restriction has a greater impact on consumers with low income, who are the buyers of low-value apparel products. Also, the major exporters of low-value apparel products are developing countries who are more subject to changes in quotas and other trade restrictions. For high-value apparel products, which tend to compete on quality and fashion, tariffs and quotas affect the price of imported goods less significantly than low-value products, since these high-value apparel products are primarily exported by developed nations. Also, high income consumers who are the buyers of these high-value products may be less sensitive to price changes, since they care more about quality and fashion than price.

Therefore, considering that imports of low-value apparel products are more subject to the changes in trade restriction, and the competitive advantage of low-value apparel products is price, there is a possibility of uneven distribution of consumer welfare loss by trade restriction across consumers at different levels of income. The purpose of this study is to investigate consumer welfare loss due to price increases across different levels of income. Although there have been criticisms concerning the usefulness of the concept of consumer surplus, it is of great use as a heuristic device for illustrating the social benefits or costs of policy decisions, and there is no alternative computable measure of the welfare loss

(Currie, Murphy & Schmitz, 1971; Maddala & Miller, 1989; Morey, 1984). Based on consumer welfare loss, the social benefits or costs of apparel trade policy decisions are discussed.

Literature Review

Studying the direct impact of trade restriction on American consumers, Bergsten (1972) summarized that consumers suffer from trade restrictions by having to face higher market prices for apparel and textile goods due to tariffs and quotas and by having to face limited choices for low-priced products. He suggested that low-income consumers generally suffer most because low-price goods from abroad are the primary target of U.S. import restriction.

Previous studies in the area of quantitatively assessing consumer welfare loss due to trade restriction in apparel industry mostly researched this issue from a macro-economic perspective. Dardis (1986) estimated the total cost of U.S. trade restriction as $13.113 billion for U.S. consumer loss, $10.374 billion for U.S. producer/distributor gain, and $2.003 billion for U.S. tariff revenue, resulting in a total welfare loss of $0.736 billion for the whole U.S. economy (All numbers are in 1984 dollars). The estimates were based on partial equilibrium models of supply and demand for apparel products. Tarr (1989) estimated the consumer welfare loss, measured in Hicksian Equivalent Variations, of removing importation quotas as $13.06 billion for the United States, using a general equilibrium trade model. Tarr (1989) also found that the apparel price in the U.S. was 47% higher than the price with no quota system existed.

Although the popular believe has been that low-income consumers will suffer more than high-income consumers with high apparel prices caused by trade restriction on textile and apparel, no study has directly estimated the size of welfare loss due to trade restriction suffered by consumers with different levels of income. It was the purpose of this study to use household-level data and analyze to estimated consumer demand for apparel, taking household income, household demographic characteristics, and market prices into consideration. Based on the estimated demand functions, welfare loss for consumers with different levels of income were estimated and analyzed.

Theoretical Background

The neoclassical consumer demand theory provides a theoretical framework for the analysis of consumer demand by formulating expenditure functions for goods and services. Given a budget constraint and a utility function representing consumer preferences, the bundles of commodities that maximize consumer utility subject to the budget constraint can be expressed as a function of relative prices of goods, household income and household preferences.

The basic idea of consumer welfare change is to attach a monetary value to the change in welfare resulting from a change in prices (Deaton & Muellbauer, 1980). Two commonly used consumer welfare measurements are Hicksian Compensation Variation (CV) and Hicksian Equivalent Variation (EV). The CV is defined to be the amount of money that has to be compensated to a household in the new situation with the price increase in order to leave it as well off as in the original situation, whereas the EV is defined as the amount of money that can be taken away from the household's initial income in order to give the household the same utility level as after the price increase (Broadway & Bruce, 1983). Mathematically, with a single price change, CV and EV can be formulated as:

$$\begin{aligned} CV &= e(p^0,u^0) - e(p^1,u^0), \\ EV &= e(p^0,u^1) - e(p^1,u^1) \quad (1) \end{aligned}$$

where p^0 are initial prices, p^1 are new prices, u^0 is the original utility level, and u^1 is the utility level after the price change.

Data and Descriptive Statistics

The three major data sources used in this study were the 1980-1992 Consumer Expenditure Survey (CES), the 1980-1992 Consumer Price Index (CPI), both collected by the Bureau of Labor Statistics (BLS), and the 1990 ACCRA Cost of Living Index (ACCRA), published by the American Chamber of Commerce Researchers Association. For this study, only households that completed the interview for an entire calendar year were selected in the CES data set. The price data coming from the CPI were compatible and consistent with the CES, since the CPI data used expenditure weights obtained from the CES data. While the CPI provided price data over time, the ACCRA data published price differences among standard metropolitan statistical areas (SMSA's) for major expenditure categories and were used as a supplement to the CPI price data in this study.

Since household decisions on expenditures on different commodity categories were interdependent, in order to study household expenditure on Apparel, it was important to take households expenditures on other commodity categories into consideration. Considering

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data availability and computational feasibility, besides Apparel and Upkeep, twelve other mutually exclusive categories of summary expenditures were selected for this study: Food at Home; Food away from Home; Shelter; Fuel and Utilities; Household Operation, Household Equipment and Furnishing; Entertainment; Transportation; Education; Health Care; Alcoholic Beverages; Tobacco and Tobacco-Related Products; and Personal Care. For a detailed description of data construction used in this study, see Fan (1996).

The total sample size was 10,400 households who were interviewed for a whole calendar year during 1980 to 1992. During the 13-year sample period, household income, expenditures and budget shares, and market prices have experienced many changes. Generally speaking, prices have increased over time, but the rate of increase for different commodity categories was different. Among thirteen expenditure categories, Apparel had the second lowest price increase (45%) over the 13-year sample period, second only to Household Equipment and Operation (37%). Although prices of Apparel have rise more slowly than general inflation despite trade protection, there is every reason to believe that inflation in Apparel would have been even lower in the absence of protection (Cline, 1990).

There were also significant price differences among regions and cities. The average price increase in Apparel over the thirteen year sample period was greater for the South (57.1%), compared to Northeast (40.5%), Midwest (42.3%), and West (36.0%). However, Northeast cities with a population of more than 1.2 million still has the highest price of Apparel among all areas in 1992.

For all households in the sample, while the mean unadjusted dollar amount of permanent income has increased from $10,989 in 1980 to $22,915 in 1992, a 109% increase during the 13 years, the simultaneous inflation canceled out most of the income growth. During the thirteen year sample period, the budget share for Apparel was fairly stable. The lowest was 4.99% in 1980, and the highest was 6.06% in 1986.

Methodology

Demand System

Given the large number of expenditure categories and demographic variables involved in the demand system, it was important to select a simple but flexible demand system to execute the analysis. The Almost Ideal Demand System (AIDS) and it's linear approximation form LA/AIDS was employed for analysis. Following Deaton and Muellbauer (1980), the LA/AIDS was defined by

$$W_i = \alpha_i + \sum_j \gamma_{ij} \log P_j + \beta_i \log(M/P^*) \quad (2)$$

where w, p and M were budget share, price and income, respectively, α, β and γ parameters, and I and j expenditure categories.

Alston, Forster and Greene (1994), and Pashardes (1993) criticized the LA/AIDS system for causing bias in price elasticity estimates by using Stone Index and proposed the corrected formulas for price elasticity estimates. This corrected formulas were used in this study to correct the estimation bias. To avoid statistical problems, the Stone index was created using mean budget shares for each region/city size combination, and thereby could be treated as exogenous.

Two statistical issues were addressed in this study. The first issue was the incorporation of demographic variables into the demand system. For this study, a form of demographic translating was employed (Blundell, Pashardes & Weber, 1993). This specification was realized by allowing the parameters α and β in the LA/AIDS demand system, and only these parameters, to vary with the demographic variables.

The second issue was the problem of limited dependent variables, which occurred due to zero expenditure on some commodities by some households during the sample period. After comparison of several available statistical procedures for handling this problem, the two-stage tobit procedure was selected for this study. Therefore, the LA/AIDS system with correction for limited dependent variable was then specified as:

$$W_i = \alpha_{i0} + \sum_{h=1}^{m} \alpha_{ih} D_h + \sum_j \gamma_{ij} \log P_j + (\beta_{i0} + \sum_{h=1}^{m} \beta_{ih} D_h) \log(M/P^*) + \sigma_i [\phi_i - (1 - \Phi_i) \sum_{h=1}^{n} \tau_{ih} X_h] \quad (3)$$

For a more detailed description of the model development used in this study, see Fan (1996).

Variables

The income variable used in this study was annual permanent income defined by subtracting social security tax, cash contribution, life insurance payment, and net vehicle outlay from the Bureau of Labor Statistics defined total expenditure and was a sum of the 13 expenditure categories discussed in the data section. Since prices were included as explanatory variables, the permanent income did not need to be adjusted for the Consumer Price Index.

The following demographic variables were used in the model. (1) Characteristics of the reference person: ethnic dummies (Asian, Black, Hispanic, White(base)); gender dummy (female, male(base)); logarithm of age; education dummies (less than high school(base), high school graduate, some college, college graduate and more); employment status (full time, others(base)); and occupation (white collar, self-employed, others(base)); (2) Characteristics of the household: number of earners; family composition(number of members less than 6 years old, number of members between 6 and 17, number of members between 18 and 34, number of members between 35 and 64, number of members older than 65); housing tenure (renter(base), owner with mortgage, owner without mortgage); region (Northeast(base), Midwest, South, West); and (3) A continuous variable indicating the year of the interview.

Computation of Consumer Welfare Changes

In order to analyze the welfare impact of Apparel price change on households with different levels of permanent income, the 1992 sample was divided into four quantiles by their total household expenditure for simulation. For all variables in the model, the mean values were computed to form a representative household for each quantile.

For the simulation, all households were assumed to face the same beginning Apparel price, which was the average Apparel price index for 1992. For these four representative households, Marshallian consumer surplus losses were first computed at different levels of Apparel price changes, ranging from 5% to 100%. Then, Willig's (1976) approximation formulas for constant income elasticities were used to estimate the Hicksian equivalent variations.

Finally, in order to determine the relative sizes of utility losses for households with different levels of income, Hicksian equivalent variations were computed when the choke prices were reached for each household in the simulation. These numbers were used as estimates for total consumer utility generated from Apparel consumption at the initial price level. Welfare losses as percentages of total utility from Apparel consumption were then computed for each household in the simulation.

Results

The LA/AIDS demand system was estimated using an iterative seemingly unrelated regression (ITSUR) method. About eighteen percent of the variances of the budget share for Apparel were explained by the set of independent variables. For the whole system, the R^2s range from 0.10 to 0.47.

Since Apparel was income elastic, poorer households usually spent less of their budget on Apparel than richer households. The demand curve for the average poorer household was therefore always on the left-hand side of the demand curve for the average richer household, implying at any price, poorer households purchased less than richer households. Further, since poorer households were more own-price elastic than richer households, the demand curve for the average poor household was steeper than that for the average richer household. The shapes of the demand curves determined that, if Apparel price increased, the absolute value of consumer welfare loss was always higher for richer households than poor households.

The simulation results for the four representative households, presented in Table 1, confirmed this relationship. For a 5% increase in Apparel price, the average household in the bottom income quantile had an utility loss that is equivalent to $49.04, while the average household in the highest income quantile has an utility loss that is equivalent to $337.08, more than six times higher. However, when we computed the Hicksian equivalent variations as percentages of total consumer utility generated from Apparel consumption at the current price level, it was found that the percentage of welfare loss was actually

Table 1
Estimated Hicksian Equivalent Variation in Dollars (Percent of Total Utility from Apparel Consumption) by Quantiles of Permanent Income

Apparel Price Increase	Bottom quantile	Second quantile	Third quantile	Top quantile
5%	$ 49.0 (10%)	$105.4 (8%)	$169.4 (7.5%)	$337.1 (7%)
10%	$ 92.9 (18%)	$199.9 (15%)	$321.7 (14%)	$640.9 (13%)
20%	$167.7 (33%)	$362.4 (28%)	$584.2 (26%)	$1,166 (24%)
25%	$199.9 (40%)	$432.6 (33%)	$698.0 (31%)	$1,395 (28%)
50%	$322.7 (64%)	$705.1 (54%)	$1,142 (51%)	$2,295 (46%)
100%	$455.0 (90%)	$1,020 (79%)	$1,668 (74%)	$3,382 (68%)

higher for poor households than for richer households. For example, given a 5% Apparel price increase, a $49.04 utility loss for the average poor household was about 9.7% of its total utility generated from Apparel consumption at the current price level, whereas a $337.08 welfare loss to the average household in the highest income quantile was only 6.8% of its total utility generated from Apparel consumption, a 43% difference.

The same was true for every level of Apparel price increase simulated. Logically, consumer welfare loss was estimated to be larger for larger price increases. For example, for a representative household in the bottom income quantile, a 50% price increase in apparel would yield a utility loss that is equivalent to $322.67, more than six times higher than the utility loss this household would suffer with if the Apparel price increase is only 5%. Further, with a 50% price increase, this household will lose a little less than two-thirds (63.8%) of the total utility it enjoys at the current Apparel price level. For the average household in the upper quantile, a 50% price increase will yield a utility loss that is equivalent to $2295.20, which is more than six times higher than the utility loss with a 5% price increase. This household will lose about 46% of its total utility generated from apparel consumption at the current price level.

Since the prices of low-priced apparel products were affected more by trade-restriction, the price difference with or without trade restriction was higher for low-income consumers (Bergsten, 1972). For example, a low-come consumer might face a 100% price increase due to trade restriction, compared to a 25% price increase for high-income consumers. If that was the case, then the absolute level of consumer welfare loss could also be higher for low-income consumers than for high-income consumers. Further study is needed to explore the issue of apparel price increases for consumers with different levels of income.

Conclusion and Limitation

In this study, consumer welfare losses due to price changes in Apparel, measured with Hicksian equivalent variations, were estimated across different levels of income, based on demand estimates from a LA/AIDS model for households. It was found that if Apparel price changed, the absolute value of consumer welfare loss was higher for richer households than poor households. However, when the Hicksian equivalent variations were measured as percentages of total consumer utility generated from Apparel consumption at the current price level, the percentage of welfare loss was actually higher for poor households than for richer households.

Several limitations need to be kept in mind when interpreting the results of this study. First, due to data limitation, this study did not differentiate domestic Apparel products and imported Apparel products. Instead, Apparel was treated as one product. It was assumed that consumers living in the same area (region/city-size) in the same year faced the same apparel price. Apparently, this assumption had an impact on the accuracy of own-price elasticity for Apparel for low-income households. Low-income consumers might be even more own-price elastic than suggested in this study. In that case, the consumer welfare loss for low-income consumers were underestimated.

Second, this study only dealt with direct consumer welfare losses due to price increase in Apparel, which is only one aspect of the impact of trade restriction on Apparel. Producers' welfare change, and some consumers' wage gains were not taken into consideration.

Despite the limitation, this study still has an important policy implication. Apparel manufacturers and unions have been vigorously resist trade liberalization in the name of saving jobs (AFL-CIO, 1995). Although it has been well known that restriction of the supply of imports has had the effect of raising the U.S. consumer prices of apparel above levels they otherwise would have attained (Cline, 1990), previous research has not explicitly estimated the differential impacts on households of different income levels. The findings in this paper suggest that the poor are hurt relatively more than the rich by price increases. Thus, if we are interested in the welfare of lower income families, we should realize we are sacrificing lower income consumers' welfare proportionately more by resisting trade liberalization for the well-being of apparel manufacturers and unions.

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Consumer Satisfaction with Vehicle Leasing

A survey of vehicle lease holders revealed that lower payments and driving a nicer vehicle were important factors in leasing. Information on leasing was most frequently obtained from the dealer. Over half of the respondents had compared the cost of leasing to other alternatives. Three-fourths negotiated the price before agreeing on leasing terms. Although respondents were satisfied with leasing, about half had leased for less than two years and may not have encountered end-of-lease problems which are frequently cited. Also, respondents represented only two vehicle dealerships. The importance of leasing with a reputable dealer is recognized.

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Background

Automobile leasing has grown tremendously in recent years and is expected to continue growing. In 1984 only 11.6% of total new car sales were leased (Weiser, 1995) while nearly one-third of all cars were leased in 1995 (New rules seek to simplify car leasing, 1996). The Federal Reserve Board says that the percentage of leases is as high as 70 percent among certain luxury cars. (Fed releases inadequate auto leasing rules, 1996). Industry analysts predict that by 2001 half of all new vehicles will be leased (Bartlett, 1995).

Advantages of Leasing

A number of factors attract consumers to automobile leasing. Affordability is one of the major reasons. When one compares the monthly payments and the need for little or no down payment required for a lease with financing a car, a lease seems less expensive. Another key factor is that leasing saves time and money on repairs and maintaining a car. A car that is leased for two or three years is generally covered by the manufacturer's warranty. Thus, the leaser avoids costly replacement of brakes, tires, and other systems. The maintenance that is involved with a leased vehicle is usually limited to oil changes or tire rotations. In addition, leasing is an easier way to move from one vehicle to another. Consumers who lease do not have to worry about trading-in or selling a used vehicle (Olsen, 1996).

Disadvantages of Leasing

Along with the growth in popularity of leasing many consumers have had complaints about their experiences with leasing cars. The complaints have included a range of problems including no credit for trade-ins, large charges at the end of a lease, and consumers who end up with a lease when they thought they were purchasing a car (Longo, 1995). The Better Business Bureau AUTO LINE program reports an increased number of leased vehicle cases (Weiser, 1995). The Consumer Federation of America (CFA) and the National Association of Consumer Agency Administrators (NACAA) reported that complaints about auto leasing to state and local consumer protection agencies almost doubled from 1994 to 1995. Consumers most frequently complained that they did not understand the contract that they signed (Ponder, 1996).

Leasing an automobile is a complex financial transaction. Terms used in leasing differ from terms used in financing an automobile. Some of the terms used in leasing are capitalized costs, capitalized cost reduction, residual value, acquisition fee, inception fees, money factor, lease term, and after-market items. Some of these terms are not specified in the contract or the documentation given to the consumer (O'Loughlin, 1996). While there are many terms to consider, consumers may not realize that many of these are negotiable (Bartlett, 1995). The dealer may negotiate many leasing deals in a year, but for many consumers, leasing is a new experience. Because the transaction is complex, the opportunity to deceive consumers is greater. For example, the Attorney General in Florida conducted a state-wide investigation which resulted in over $4,000,000 in restitution to victims of leasing scams (O'Loughlin, 1996).

Consumers who fail to meet the leasing terms and conditions can experience additional costs at the end of the lease term. For example, consumers who exceed the mileage limitations will generally pay an excess mileage fee. Consumers who have open ended leases may have to pay the difference between the actual value at the end of the lease and the estimated value. It can be very difficult to determine the consumer's price with leasing. In this type of environment consumers need to recognize their position and work toward reducing problems. They need to learn about the products, ask questions and be sure sales personnel can answer them (Eastwood, 1997, p. 239).

It may be difficult for consumers to assess the lease versus borrow question. Sometimes the method of evaluating the question is too complex for consumers while other times the methods may be oversimplified and not provide adequate information. Thus, consumers might focus on different factors when selecting a lease (Nunnally & Plath, 1989, p. 385).

Need for Consumer Education

Based on the growth in car leasing and the growth in complaints about car leasing, there appears to be a need for consumer education about car leasing. Remar Sutton, president of the Consumer Task Force on Automotive Issues, said that "leasing an automobile is so complex that few people understand the process." (Heath, 1995). Jack Gillis, author of *The Car Book*, echoes this statement by saying that "the paperwork has become so obscenely complex that the average person can't make heads or tails of it" (Heath, 1995).

"Being informed is a crucial aspect of making optimal purchases" (Eastwood, 1997, p.167). Automobiles are generally considered a durable good and have properties of experience goods. This means that consumer often can evaluate usefulness, features and utility only after the product has been used. Because of the high price of an automobile, most consumers cannot buy and try several brands. They need to gather information first. Because they purchase this durable infrequently, the information problem can be increased (Eastwood, 1997, p. 238).

Although an automobile lease might not be considered a durable good, it could have several similar properties. Consumers might better evaluate its utility after using a lease. Lack of familiarity with the product would indicate that they need to gather information first. Many consumers may rely on advertisements or dealers to gather information for making a decision. If they have not leased an automobile before, consumers might not be aware of what information is relevant, where to get it and how to interpret the information. Sellers could be more knowledgeable and able to control the information presented to the consumer.

In September 1996, the Federal Reserve Board released new disclosure rules which will go into effect in October 1997. Under the new rule, car dealers will disclose to consumers how they calculate monthly lease payments. The dealers will also have to tell lease customers the basic price of a vehicle and spell out possible penalties for terminating the lease early (New rules seek to simplify car leasing, 1996). These rules will apply to leases of $25,000 or less.

Some consumer advocates feel that this new rule is still inadequate in providing necessary information to consumers. Mary Ponder, CFA Senior Projects Director, says " Consumers need a finance rate in order to compare leasing offers. A federally mandated, standardized annual lease rate would assure uniform disclosure of lease cost information" (Fed releases inadequate auto leasing rules, 1996).

Purpose

The purpose of this study was to learn what features were attracting consumers to leasing vehicles, which consumers were leasing vehicles, and their level of satisfaction with leasing. In addition, the study attempted to determine how consumers got information and made decisions about leasing.

Methodology

A survey was developed to collect information on usage of leased vehicles. The survey was pilot tested and some questions were revised to improve clarity. The criteria for inclusion in the study was current usage of a leased vehicle which necessitated the use of a purposive sample. Two automobile dealers representing different geographic areas were contacted and asked to provide randomly selected names of consumers currently leasing vehicles. One dealer was located in a small town in a rural community and the other dealer was located in an urban area. The first dealer provided 30 names and the second dealer provided 100 names. Sixty-six usable surveys were returned giving a response rate of 50.8%. Responses were coded and analyzed using means and frequencies. Chi-square was used to test for significant relationships.

Findings

Descriptive Statistics

A limitation of the sample was that it does not represent a random sample of all persons who lease a vehicle. The results showed that these lease holders were more likely to be married, with a college education, a relatively high level of household income, and not retired. Eighty-three percent were married and 57.6% had a college degree. One-fifth earned less than $20,000, but 37.1% earned more than $80,000. Only 14.1% were retired. Two-thirds were men and one-third were women. See Table 1.

Table 1
Characteristics of the Sample (N = 66)

	N	Percentage
Age		
< 35	13	19.7
36-45	26	39.4
46-55	10	15.2
56-65	9	13.6
>65	8	12.1
Marital status		
Married	55	83.3
Other	11	16.7
Gender		
Male	42	63.6
Female	24	36.4
Household income		
< $20,000	1	1.6
$20-39,999	11	17.7
$40-59,999	21	31.8
$60-79,999	10	16.1
=>$80,000	23	37.1
Residence:		
Rural	21	31.8
Urban	45	68.2
Education		
HS or less	13	21.2
Some college	14	21.2
BS or more	38	57.6
Retired		
Yes	9	14.1
No	55	85.9

The majority of the respondents were leasing one vehicle. The average monthly lease payment was $346 (SD = $122). The typical leasing period was 36 months. Slightly over half had used a leased vehicle for more than 2 years. When asked what features attracted them to leasing, responses and percentage responding were (more than one answer was permitted): lower monthly payments, 57.5%; drive a nicer vehicle, 57.5%; drive a newer model, 48.4%, and tax purposes, 33.3%. When asked whether the use was primarily business or personal, one half said personal and one-half said a combination of business and personal. See Table 2.

Table 2
Vehicle Leasing Characteristics (N = 66)

	Mean(SD)	Range
Monthly payments	346(122)	138-999
Length of lease	35.3(8.67)	24-60
	N	Percentage
Number vehicles leased		
1	40	60.6
2	18	27.3
3 or more	8	12.1
Experience with leasing		
6 months	11	16.7
1 year	11	16.7
2 years	9	13.6
> 2 years	35	53.0
Length of leasing period		
24 months	14	21.2
25-35	9	13.7
36 months	33	50.0
48 months	7	10.6
60 months	3	4.5
Plan to keep leased vehicle		
Full term	52	78.8
> full term	3	4.5
Other	11	16.7
Satisfaction with leasing		
Very satisfied	32	48.5
Satisfied	34	51.5
Dissatisfied	0	----
Very dissatis.	0	----
Would lease again		
Yes	53	85.5
No/unsure	13	14.5
Features that attracted to leasing (More than one answer was possible)		
Lower payments	38	57.5
Nicer vehicle	38	57.5
Newer model	32	48.4
Tax purposes	22	33.3
Other	12	18.2
Primary use of leased vehicle		
Bus/personal	33	50.0
Personal	33	50.0

Obtaining Information about Leasing

When asked where they obtained information about leasing, dealers were named by 74.2% of respondents. Half said family and friends, and 27.2% said the media (print, radio or TV). Forty-four percent said that they had sufficient information about leasing and two-thirds said the information was very useful. Of those who indicated that additional information was needed, 28.8% reported needing more information about extra fees, and 22.7% wanted to know more about residual value of the leased vehicle. See Table 3.

Table 3
Information and Decision about Leasing (N = 66)

	N	Percentage	
Where obtained information			
(More than one answer was possible)			
Dealer	49	74.2	
Family/friends	37	56.1	
Media	18	27.2	
Usefulness of information			
Very useful	43	69.4	
Of some use	23	30.6	
Needed other information			
(More than one answer was possible)			
Had enough	29	43.9	
More extra fees	19	28.8	
Residual value	15	22.7	
How end early	12	18.2	
More on terms	10	15.2	
Excess mileage	9	13.6	
More on cost	7	10.6	
Other	4	6.1	
Warranties	1	1.5	
Negotiated price before agreeing on leasing terms			
Yes	47	73.4	
No	19	26.6	
Compared cost of leasing to other alternatives			
Vs. loan		35	58.3
Vs. purchase	14	23.3	
Didn't compare	7	11.7	
Other	4	6.7	
Missing	6	----	
Best value			
Lease/lease	30	53.6	
Lease/buy	9	16.1	
Buy/trade own	8	14.3	
Buy/sell own	7	12.5	
Other	2	3.6	
Missing	10	----	

Overall 81.6% compared the cost of leasing to buying. Respondents were more likely to compare leasing payments to loan payments (58.3%) than leasing to cash purchase of a vehicle (23.3%). One-half thought the best value was to lease for a given period and then to lease again compared to all other alternatives. Respondents reported that they were either very satisfied (48.5%) or satisfied (51.5%). Only 14.5% were not sure about leasing again.

Chi-square was used to test for significant relationships among the variables. The size of the sample necessitated collapsing income into two categories: household income less than or equal to $60,000 or household income greater than $60,000.

A Chi square test showed a relationship between household income and number of cars leased ($\chi^2 = 12.43$, $p = .001$) and household income and how long respondents had leased ($\chi^2 = 10.28$, $p = .001$). Respondents with lower household incomes had a tendency to lease one car while those with higher household income tended to lease more than one car. Respondents with higher household income had a tendency to lease for more than two years. There was a relationship between experience with leasing and whether respondents would lease again ($\chi^2 = 4.53$, $p = .033$). Those who would lease again were more likely to have leased for two or more years. And, those with household income less than $60,000 tended to say they were "satisfied" with leasing while those with household income greater than $60,000 said they were "very satisfied" ($\chi^2 = 3.88$, $p = .049$).

Discussion and Implications

Most advertising for vehicle leasing emphasizes the benefits of lower monthly payments. For these respondents, lower payments and driving a nicer vehicle had the same level of importance while driving a newer model was also quite important.

The frequent use of dealers for information shows that consumers were essentially gaining information from sources that were likely to be biased in favor of leasing. Consumers in the study were not dissatisfied with leasing, and about half said they had received enough information. From the responses, it appeared that consumers would like more information on specific items such as extra fees and residual value. About half had leased for less than two years and probably had not ended a lease.

Literature citing leasing problems indicates that problems often occur at the end of a lease when excess mileage, excess wear and tear, and residual value must be dealt with. More consumers in this study may express dissatisfaction when they have experienced the end of a lease. But, it is possible that the dealers in this study have satisfactory relationships with their clients, and problems at the end-of-lease will be avoided.

Negotiating the price is frequently mentioned as an important technique to use when leasing vehicles. Most of these consumers had negotiated the price. The findings indicate that most of the respondents were acting in their best interest by comparing prices and negotiating for the best value. It would be useful to repeat the study with a larger sample to determine if these consumers are representative of the population.

Leasing is very different than purchasing a vehicle but many consumers may not be fully aware of the differences. Consumer educators can help consumers clarify their needs and match leasing or purchasing with those needs. Consumer educators can help consumers understand the risks and benefits of leasing and the leasing process. They can assist consumers in understanding the terms used with leasing, the costs involved, the conditions of the lease, and how to compare one lease with another.

The new disclosure rules provide an opportunity for further research. In the future, consumer educators may want to learn if the rules are providing sufficient information for making decisions about leasing.

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Endnotes

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Use of a Leased Vehicle

This survey is about satisfaction with leasing a vehicle. Your responses will help us to provide information and programs on leasing.

1. Are you currently leasing any vehicles?
   Yes
   No (Go to 9)
2. How many vehicles do you lease? _____
3. For how long have you driven a leased vehicle?
   a. 6 months
   b. 1 year
   c. 2 years
   d. Longer than 2 years
4. How long do you plan to keep the vehicle that you leased?
   a. Full term
   b. Less than full term
   c. Other (please describe)
5. How many months was the original lease? ____
6. How much are your monthly lease payments? \$__7. Are you satisfied with leasing?
   a. Very satisfied
   b. Satisfied
   c. Dissatisfied
   d. Very dissatisfied
8. If you have leased, would you do it again?
   a. Yes
   b. No
   c. It depends on ____________
9. If no, would you lease a vehicle sometime in the future?
   a. Yes (Go to 11)
   b. No (Go to 10)
10. If no, why not? (Go to 17)

11. What features attracted you to leasing? (Check all that apply)
a. Lower monthly payments
b. Drive a nicer vehicle
c. Use as a business expense
d. Drive a newer model vehicle
e. Other (please describe)

12. How do you use a leased vehicle?
a. Business
b. Business and personal
c. Personal

13. Where did you obtain information about leasing? (Check all that apply)
a. Magazines
b. Dealers
c. Friends and relatives
d. Newspaper
e. Radio
f. TV

14. How useful was the information that you obtained?
a. Very useful
b. Somewhat useful
c. Not at all useful

15. What other information about leasing would have been useful? (Check all that apply)
a. I had sufficient information
b. More about cost
c. More about leasing terms
d. More about extra fees
e. More about easy termination of lease
f. More about ending the lease (residual value of vehicle, other)
g. More about warranties
h. More about excess mileage
i. Other _______

16. Did you negotiate the price of the vehicle before agreeing on the leasing terms?
a. Yes
b. No
c. (If you have comments, please include)

17. Did you compare the cost of leasing to other alternatives?
a. Leasing versus monthly loan payments
b. Leasing versus cash purchase
c. Other (please describe)
d. Did not compare

18. Which do you believe is the best value for your money?
a. Purchasing and trade in own vehicle
b. Purchasing and sell own vehicle
c. Leasing for a given period and then obtaining a lease on another vehicle
d. Leasing and then purchasing the leased vehicle
e. Other (please describe)

19. What other comments do you have about your experience with leasing vehicles?

20. Please tell us about yourself.
Age
a. 25 or less
b. 26 to 35
c. 36 to 45
d. 46 to 55
e. 56 to 65
f. Over 65

21. Marital status
a. Married
b. Separated or divorced
c. Widowed
d. Never married

22. Gender
a. Male
b. Female

23. Household income
a. Less than $20,000
b. $20,000 to $39,999
c. $40,000 to $59,999
d. $60,000 to $79,999
e. $80,000 and over

24. Residence:
a. Rural
b. Urban

25. Education
a. Less than High School graduate
b. High School graduate
c. Trade school or some college
d. College graduate or advanced degree

26. Occupation
Please list _______________

27. Retired
a. Yes
b. No

Why We Need Economic Insights to Know What's Good For Us

Both at the level of individual choice behavior and at the aggregate societal level, there are economic insights crucial for understanding what is going on and for identifying the consumer interest. We provide examples of useful insights at both the individual and societal level in order to focus on what matters and to provide a test of policy proposals as to whether they are both in the consumer interest and in the public interest.

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Consumer Interest and Public Policies

It is useful to start with what I shall not cover, namely insights from the other social sciences. Political Scientists understand the need for several powerful groups in favor and no more than one against, to get policies enacted. They know the importance of controlling the agenda. They also know how a sequence of binary choices can produce inconsistent results. Social Psychologists and Sociologists know about forming groups, developing consensus, separating loyalties from shibboleths, and expecting perceptual biases and distortions. And demographers understand the differences between a person's age, his/her generation (cohort) and the current year, which have indistinguishable effects. In Miami, people are born Spanish and die Jewish. Old people are much better off than they were ten years ago, but almost everyone becomes worse off, the older they get. Today's old are different people.

I want to concentrate on economic insights, without which we are almost sure to do good badly, get deceived, and advocate policies or individual actions which are not optimal. Many choices involve principles of interest, annuities, and insurance, and apply both to individual decision making and to defining the consumer interest in public policy.The insights necessary for individual choices that won't be regretted, or wouldn't be if one knew more, have been spelled out in an earlier article of mine. (Morgan, 1995) To introduce another awful acronym, they are DREADful, meaning that each alternative is to be assessed by its Discounted, Real, Expected, After tax, Dollar net benefit, that is, discounting the future for foregone interest, adjusting for inflation, multiplying by the probability, converting to after tax costs or benefits, and converting non-money costs or benefits into dollars using imputations or opportunity cost. Since the focus is entirely on the future, the overall implication is that the past is irrelevant except where it helps us predict the future. All decisions are ultimately based on predictions about the future. But let focus first on the insights essential to discussing the consumer interest in public policy.

At the Societal level, we need a structure and a set of principles to guide us. What economists generally agree on is that competition and free markets work well most of the time, driving prices and profits down, wages and employment up, and spurring increases in efficiency. Competition provides a threat of loss and private property allows a promise of profits for doing things optimally. So a first consumer interest is in preserving and promoting competition and free markets. All the concerns that involve the consumer interest, can be categorized as to where they keep the system from working the way economic theory says it should. The best analysis was published many years ago in a book by Abba Lerner. (Lerner, 1944). An optimal economic system expands the production of each good or service until the added social cost of one more gets larger than the added social benefit. Where does the equality break down?

MARGINAL SOCIAL COSTS=PRICE OF INPUTS
PRICE OF INPUTS=MARG PRIVATE COSTS
MARGINAL PRIV COSTS=MARG PRIV REV
MARG PRIV REVENUE=PRICE OF PRODUCT
PRICE OF PRODUCT=MARG SOCIAL BENEFIT

We discuss these equations in order:

1. Prices of inputs do not represent social costs where there are costs not payable by private enterprise, the so-called externalities like pollution. The external costs can be internalized by pollution

charges, or taxes on fossil fuels, etc. In 1904 George Bernard Shaw pointed out that Britain was subsidizing its shippers by allowing stevedores' wages to be so low that they ended up at the age of 30 as drunken derelicts. (Shaw, 1904) The price of inputs only reflects social costs if all these equations hold for all other production as well.

2. The second equation implies that any lack of competition in the markets for labor, land, or materials will spoil the equality of input prices and private costs. Again, remember that the principle here is not opposition to profits but opposition to distortions of the vaunted efficiency of the whole system. To be fair, we should point out that really tough unions like some of the old craft unions and some of the professional associations today, violate this equality. We come back to the issue of competition later in equation four, since many inputs of goods or services are also someone else's output.

3. Making sure marginal costs equal marginal revenues is the formula for maximum profits (or minimum losses), so for equation three we only need to assume that most businessmen are reasonably smart, or that the others soon fail and dissapear.

4. Monopoly in markets for goods and services will spoil the fourth equality, whether a natural monopoly like the distribution of water, gas, or electricity, or disposal of sewage and garbage, or a government created monopoly from acreage restrictions, leasing of government lands, licensing, tariffs, subsidized water, etc. A natural monopoly must either be regulated, (at the cost of two sets of accountants and lawyers, and a difficult course between too tight that discourages enterprise and too loose that encourages excess profits and prices), or run as a government enterprise, (at the cost of possible indolence). Recent talk of privatization often fails to distinguish between competitive areas where the government should probably not be in business (housing?), and natural monopolies like electric lines, water pipelines, sewage lines, railroad lines, and roads, where privatization before regulation is in place can lead to excessive profits. "Privatization", often means selling off government assets and creating not private property but new private monopolies. Whatever price is paid can then be used to justify raising the rates to produce a "fair return on investment". England has had a series of scandals from selling off city water supplies, trying to "privatize" pensions, and selling electricity suppliers. The electric producers immediately tried to buy the distribution system, the part that is a natural monopoly, and almost got away with it. (See various issues of The Economist.) In this country we have recently seen an emasculation of anti-trust laws which were weak and slow even before that. Unfair restraints of trade to keep out competition can theoretically lead to damage suits, but they take so long that the damage is usually not remediable, and they are hard to finance in a contingent-fee system. There seem to be few restrictions on mergers and buy-outs, however unreasonable. For example, three major pharmaceutical manufacturers each bought up a company that was negotiating better prices for hospitals and other large users, for a total of more than 12 billion dollars, with immediate market responses driving up the values of their stocks as an indication of the monpoly value of such vertical integration.

Governments help create many of the restrictions on competition, often in the guise of consumer protection or market stability. Once a privileged position is so established, its monopoly value can be capitalized and sold, making it difficult (and unfair) to remove it. Examples are taxi and liquor licenses, rights to grow tobacco and other crops, federal leases for grazing, mining, timber, or oil, and even protective tariffs and licensing of artisans. Scarce rights need to be auctioned off, not transferrable, and renewable at a changing price set by the auction price of any new ones that come on the market. And a blind sequential auction like the recent one of rights to broadcasting bands avoids collusion while allowing increased bids.

5. The fifth equality is the most difficult and complex assumption of all. It assumes three other things: (a) attention to external benefits not included in the price, (b) wise and informed consumers and no frauds, and (c) a fair enough distribution of purchasing power so that prices paid can reflect social benefits, We take them up in order:

5a. The first assumption reminds us that there are "external benefits", where individual decisions or societal actions produce benefits which cannot be made exclusive and sold. Where individual actions benefit society at least in part, as with education, encouragement and even subsidy may be in order. Wherever public provision is efficient, but it is difficult to fund by user charges, as with lighthouses, weather warnings, police and roads, such "social goods" call for public funding. Information is a public good because one can give it away and still have it.

5b. The second condition, wise consumers and no frauds, may be fulfilled by a mixture of laws and consumer information agencies and organizations. The choice between consumer education and consumer protection seems to be shifting, properly, toward education. Information requires education as to its meaning, and selection to leave out irrelevancies. In a complex world where attention is a scarce resource, information may be detrimental, diverting our attention from what is important to what is unimportant. Laws and regulations cannot keep up with the complexity of the choices consumers face. Disclosure requirements may help. In 1994 the California Department of Insurance issued a requirement that insurance companies reveal the effective interest rate on the savings part of life insurance policies, allowing consumers to compare them with alternative (tax exempt) investments. In 1996 the California State Legislature in an almost unnoticed piece of anti-competitive legislation, abrogated that regulation and substituted one mandating a lot of fairly useless information.

It is doubtful that ordinary citizens could evaluate the quality of their chldren's education, or of their own medical care, or of their retirement programs, even if there were competing suppliers. And it has been so evident that most are unwilling and/or unable voluntarily to save for their own retirement and some other major risks, that Social Security systems force them to do so in every major country. A privatized Social Security would need compulsion and regulation, as recent scandals and bankruptcies in England and Chile prove. (The Economist or Kritzer, 1996). There are also areas where many are not responsible so that it is a legitimate government function to make them so. Child support payments need some compulsion. Elsewhere we have proposed a surtax on each parent for each child produced, to fund health care and support payments for children, the tax to continue twice as long as the support, catching some parents after they start earning. (Hill and Morgan, 1991)

Whenever a drug hurts people other than the user (amphetamines), there is justification for suppressing it. Where it hurts only the user, there is a choice between trying to outlaw it, often making it expensive, subversive of the police, and profitable to criminals, or taxing it and using the funds for helping the victims and trying to educate the transgressors. A mixture may be good, but a movement toward using market prices to induce better decisions seems in order. 5c. But it should now be obvious that these market solutions to breakdowns of free-market capitalism fail if the distribution of purchasing power is too unfair. Do we really believe that the amount of productive resources devoted to Mercedes cars and cosmetic surgery relative to the amount devoted to child health and nutrition reflects proper social priorities? Even the Economist, that bastion of belief in markets and privatisation, now says the vastly increased inequality of income and wealth in much of the developed world is unacceptable, without going so far as to suggest that this might require restoring some progressivity to the tax system in addition to improving the job market. Economists pointed out early that one could not separate the issues of efficiency from those of equity, the very definition of efficiency breaking down if there was inadequate equity. That lesson seems to be forgotten by those who want to cut the capital gains tax (benefiting the rich for dubious gains in efficiency) or to substitute a value-added tax for the income tax, making the tax structure still more regressive, since a value added tax is a sales tax that cannot even be made less regressive as many sales taxes are by exempting food and medicine. Economic incentives, or even the ingenious proposals to use voluntary negotiated contracts as compensation mechanisms for externalities must depend on equality of bargaining power which ultimately depends on the distribution of purchasing power among consumers. (See Hal Varian, 1994)

Many changes sold as improvements in incentives turn out to benefit the lucky who can take advantage and to punish the unlucky who cannot. We changed Social Security to reward those who kept working till they were 65, thereby punishing the large number whose health or job gave out so that they could not keep working. Where all are not free to choose, one person's incentive may be another's punishment.

The much-maligned income tax is unique in its ability to make the distribution of purchasing power less unequal while maintaining incentives (if you earn more you always keep some of it) and causing minimal distortion of choices. If you spend your income, any taxes on spending reduce incentives to work as much as an income tax, (actually, with any tax you might work harder in order to maintain living standards), and there are less inequitable ways of encouraging saving than exempting it from income taxes.

Perhaps the most important implication of all this is that a reasonable distribution of purchasing power is doubly crucial for an open market economy, first to assure that the basic optimization equations are realized, and second to allow market remedies when other problems occur. Hence it is frightening that 72% of Americans think income inequality is not too large, far more than people in Japan or any European country except East Germany. (Basanez, Inglehart, and Moreno, 1997) In fact, our inequality is substantial and growing. Americans are also far more likely to think equality of opportunity exists.

Many public policies involve issues of insurance or annuities, including pensions and Social Security, where the ordinary citizen is usually baffled. Insurance eliminates risk by pooling, provided there is no adverse selection (only those likely to collect join, or company only insures those not likely to collect). Individuals eliminate their risk by purchasing insurance, and the insurance company eliminates its risk by pooling (diversification of a sort).

A life insurance policy which combines insurance with a saving program, developing a cash surrender value, can only be assessed and compared with other insurance policies and with other ways of saving money, by knowing the rate of interest on the saving part of the policy. This can only be estimated by an iterative calculation because the higher the interest rate, the more the cash value builds up and the less real insurance you have whose cost is to be deducted. The amount of real life insurance one needs is what would be needed on top of savings and Social Security survivors' benefits, to take care of one's dependents. That amount hits its peak when the last child is conceived, and drops rapidly, reaching zero long before retirement age because retirement savings accumulate. Hence, anyone with life insurance after age 55 is probably worth more dead than alive. Social Security survivor benefits are in the sensible form of an annuity on each survivor until he/she matures, or in the case of the spouse, dies. And in the aggregate, they are worth more than all the private life insurance in force.

Any insurance is a good buy if you have something to lose, someone who cares, and the premium reflects all the possible losses times the probability of each. The last is not likely to be true if those likely to cash in are more likely to buy the insurance. The ideal insurance covers everyone, so if it is not to be a single payer system, all the competing insurers must be compelled to take all comers. The trend is the reverse, with companies "cherry picking" the good risks, and that trend would be exacerbated if one tried to "privatize" medicare or Social Security.

Interest is important over long periods. If your accumulation earns interest at 3% until you actually get it back in a pension, then with 45 years of accumulation and 20 years of collecting, you get back nearly three times what you put in. So some of the claims that Social Security pays too much are clearly wrong, particularly if you allow for inflation and apply higher interest rates. In practice, whenever interest rates are higher than 3%, there is inflation wiping out future values, so that one should always use 3% in calculations, and insist on earning 3% plus inflation on savings. At 5% you get back six times what you put in, though it's worth less than that.

Saving reduces one's current level of consumption, hence reduces the standard one might need to maintain in retirement, so saving helps doubly. Permanent income increases can be spread over a remaining lifetime, consuming a regular amount which is a smaller fraction of the increase, the more retirement years there are relative to the years of higher earnings. Windfalls can be spread over a remaining life as though one bought a lifetime annuity earning 3%.(Morgan, 1995)

A lifetime annuity is the mirror image of life insurance, eliminating the risk of living too long by pooling. In order to live well if you should live a long time, you must bve willing to give up most of your contribution to others if you die early. Fudging this by insisting on getting something back if you die early, violates the principle and reduces the amount of annuity you get.

Social Security retirement is a system that forces us to save for our old age and use up the savings as a lifetime annuity. Social Security also involves a life insurance (survivors benefits), disability insurance, and after retirement, some medical insurance. They are important, but the main element is the retirement program, accounting for about two thirds of the contributions (withheld, paid by employer, or implicitly accrued as interest).

We have all been bamboozled and kept from a sensible assessment of Social Security retirement by a rationalization for covering people during the depression of the thirties before they had contributed much. The pay-as-you go excuse said each generation paid in on the promise that later generations would pay for their retirement. And an unfunded system with no real reserve fund and earning no interest could have a schedule of contributions and benefits that mimicked an annuity that paid interest, that implied rate of interest being the rate of growth of the total wage bill (working population times real wage rate). But if population and/or real wages do not grow steadily, that doesn't work.

The issue, then, is not one generation versus another, but the obligation of a country that borrowed the reserve funds of the system to make up any deficits out of general taxes on all of us, including the aged. The system as presently constituted, is paying about 4% on the contributions of those currently retiring, and that rate will drop to 1.7% by the middle of the next century. (Leimer, 1995). Hence, if we reduce the benefits further, or raise the payroll tax, or raise the retirement age which is the equivalent, we face some future generation with the prospect of not even "getting its money back". We would be converting a sensible system into an explosive Ponzi scheme. Some changes to account for increasing life expectancies may be in order. However, the argument that the cost of living adjustment exaggerates the real increase in the cost of living ignores the fact that a major component of the increase is medical care, and the fraction of income spend on medical care, in spite of Medicare, is more than 12%+ for those 65 and older compared with less than 4% for the young. (USBLS,1997) Recent arguments that medical costs haven't really risen because quality is better are unconvincing to those with no real choice whether to get treatment.

Hence, any future "deficits" if they really do appear, and that depends on how the population and productivity grow and how much inflation we have, are a genuine obligation of the whole society, some of the implied interest on what we all borrowed from the system in the thirties, and should be covered by taxes on all of us, including the aged, not by changing the Social Security tax, benefits, or retirement age. Some very old people are getting benefits beyond what they earned, but they are the poorest and are on their way out. So long as the implied interest earned by each generation as a whole is reasonably small, there is really no more intergenerational transfer involved, and no reason stir up unnecessary intergenerational hostility. The predicted "deficit" if it occurrs will be only the tip of an iceberg. The surge of added workers from the baby boom, immigration and women working more, will retire and start spending their accumulated Social Security and pension rights and assets, leading to massive inflation unless the Federal government raises taxes to run a budget surplus. No one seems to be dealing with this real problem, being diverted by the senseless fight over Social Security. (Note that 85% of the Social Security benefits are now counted as income for Federal income tax purposes, properly so because there have been no prior taxes paid on the employer contributions or on the implied interest.)

All this is confused by largely erroneous arguments about redistributions within each generation. In fact women benefit because they live longer, blacks die earlier but benefit from the benefit minima, and the major redistribution is insurance-annuity redistribution from the healthy and those who die early to the disabled and sick and those who live a long time. The number of years of covered earnings that must be included (including zeroes) in calculating benefits is now 35, so there are no real free riders. Misleading critics focus on the payroll tax as "regressive", ignoring the fact that when the benefits are considered the system is mildly progressive.

Medicare is a different issue, insoluble unless we do something about the whole medical care picture. But I would predict that most old people, given a choice between reducing benefits and an increase in premiums, would choose the latter. Enforcing the copayments now almost universally evaded, would help a lot. Medicare is often confused with Medicaid, a means tested, non-contributory transfer, much of which pays for nursing home care for Alzheimers victims, after they have exhausted their assets (or divested themselves of them). The two are combined with Social Security under a demeaning title of "entitlements", confusing contributory programs with means tested welfare programs.

Policy Issues Force Us Back to Thinking About Individual Choices

Many policies are proposed to improve people's incentives assuming that they are freely choosing whether to work, support their families, retire, save, etc. But for individuals unable to respond to these incentives, what seems a reward to others is a punishment to them. Hence, it is clear we need better research on whether and how individuals really make choices. Various disciplines have theories about choices: Economics is about how people should make choices, while Sociology is all about why they don't have any choices to make. A major research task is finding out what choices people have, and what choices they think they have, and how they choose.

I would urge broadening the area of economic insights tested in both experiments and surveys beyond risk and game strategy to include discounting the future, applying probabilities to estimate expected values, adding in imputed (non-money) costs and benefits, ignoring past (sunk) costs and benefits, taking account of taxes, seeking more information, and waiting for better opportunities. (Morgan, 1995) The policy implications of better understanding of choice behavior are enormous, since crucial policies are currently made based on untested assumptions about whether people have choices, and whether they understand the implications of those choices, and even what matters to them. Recent welfare reforms are a good example.

The implications for behavioral research are equally great. Estimating the level and significance of "rational" responses to changes in prices or wages or incomes while ignoring what choices were available and what other forces affected decisions is typical. Economists have always assumed that their theories only worked, and only needed to work, "at the margin". So one might think of selecting those who, on the basis of environmental and personal factors, have a probability of doing something of .2 to .8, then seeing whether the economic incentives to be tested affect them. But it would be better to develop a rich understanding of everyone's choices.

One can, however, study effects of differential income changes on panel families' consumption of food and housing, and compare them with cross-section estimates to uncover lag effects. (Morgan, 1985). We suggest starting with retrospective accounts in spite of the problems of memory loss and distortion, hoping to fine tune our models before investing in expensive longitudinal studies.

The benefit-cost theory implies a lot of calculation which seems so formidable and unrealistic that we have proponents of "bounded rationality", rules of thumb which prevent serious mistakes even while not optimizing. Installment credit involves paying a high interest rate while earning a low one on one's savings, but it might force one to save in the form of debt repayment as the car depreciates. Finally, people hopefully learn from experience, or from the experiences of others, and many decisions are made more than once in a lifetime.

Summary

It should be clear by now that the consumer interest in public policy can only be made clear by the application of some rather sophisticated economic analysis, and some further research on consumer behavior. Policies that assume well-informed consumers with many free choices to make can be badly misguided and unfair. Finally, it often takes sophisticated economic analysis to uncover the consumer interest or the public interest in proposed policies.

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Endnotes

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The Economic Impact of Widowhood in the 1990s: Evidence from the Survey of Income and Program Participation

This paper uses the 1990 and 1991 SIPP panels to examine the economic status of women prior to and after the death of their husbands. Continuously married women, weighted for age comparability to eventual widows, provide a comparison. Eventual widows already have lower incomes many months prior to their husbands' deaths,but widowhood itself is a major economic shock. Income from pensions and earnings play a pivotal role in decline in economic status at widowhood.

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Introduction

While the economic status of older Americans has improved over the past couple of decades, widowed women continue to be an economically vulnerable group. Research has documented the large, negative impact of widowhood on economic well being during the 1970s and early 1980s. Since then women's labor force participation rates have continued to rise, the life insurance and pension industries have continued to expand, and pension legislation has been passed that seeks to increase the share of a couple's resources paid to a widow after her husband's death (e.g., the 1984 Retirement Equity Act). These forces may have improved the economic position of more recently widowed women.

This paper presents a descriptive analysis of the changes in income that occur in the months immediately preceding and following the death of a husband, using data from the 1990 and 1991 panels of the Survey of Income and Program Participation (SIPP). The economic experiences of women who are widowed during the panel periods are compared to the economic experiences of similarly aged women who remain married throughout SIPP.

The Literature

Longitudinal analyses using annual data from the Panel Study of Income Dynamics (PSID) (1968-1984) or biannual data from the Retirement History Study (RHS) (1969-1979) provide a background for the current investigation. The consensus of these studies is that at the time of the husband's death there is typically a substantial decline in economic resources and a commensurate rise in the risk of falling into poverty (Bound, et al., 1991; Holden, Burkhauser, and Feaster, 1988; Hurd and Wise, 1989). The immediate post-widowhood years are characterized by somewhat greater economic stability -- albeit typically at a lower level of well being. Fewer studies track changes in economic status during the period that precedes widowhood. Zick and Smith (1991a), use 1968 to 1984 data from the PSID to compare continuously married couples' and to-be-widowed couples' income. They find that the to-be-widowed group has significantly lower average income-to-needs ratios than the continuously married group even five years prior to the death. This finding is consistent with that of Hurd and Wise (1989) who observe long-standing wealth differences between widows and intact couples in the RHS. It is also consistent with research that links lower economic well being with a higher mortality (Duleep, 1986; Hadley, 1982; Zick and Smith, 1991b).

The current descriptive work builds on past studies in several ways. First, by using data from the 1990 and 1991 SIPP panels, we are able to examine patterns of income change among more recent cohorts of widows. Second, by using SIPP we are able to examine *monthly* changes in economic well being. As such, our work is the first to present evidence of the short-run changes in various income sources both immediately preceding and immediately after the death and the stability of income in the months preceding and following widowhood. Finally, we expand the standard set of risk factors to include measures of household composition, the husband's disability status, and whether or not the widow receives income from various sources immediately after her husband's death.

Methods

The Analyses

Our goal is to provide a description of the changes in household income adjusted for needs that occur in the months preceding and immediately following the death of a spouse. Some of these changes may be due to widowhood, but others may be due to external events that would have changed the economic status of these women even if their husbands had not died. As a measure of what changes would have been expected, data are presented for a comparison group of married women whose husbands did not die during the panel. Two income regressions are estimated for the eventually widowed and continuously married couples.These regressions provide a more detailed picture of whether the pre-widowhood income/needs levels of eventually widowed couples are affected by sociodemographic and economic factors in a substantially different way than for couples who do not enter widowhood and of which sub-groups are particularly disadvantaged as they experience widowhood.

The Sample

Each SIPP panel is a nationally representative sample of households whose members are interviewed at four-month intervals over a 32-month period. At each interview, data are collected on the incomes of each household member over the four preceding months. Our sample of 382 eventual widow households and 2184 continuously married households come from the 1990 and 1991 SIPP panels. We combine the two panels using the SIPP-recommended weights for aggregating these particular panels. The eventual widows are defined to be married women age 40 and over and with husband present at the first interview, whose husbands died at some point during the panel, and who are interviewed at least once as a widow. The continuously married are a one-quarter sample of similarly aged women in SIPP who are married throughout the 32-month panel. Individuals in the sample are weighted by the appropriate SIPP sample weights. In addition, because married couples are younger than those who become widowed, a weight developed for the purposes of this study is applied to the continuously married women to make their age distribution equal to that of the (older) eventual widows. Thus, differences in patterns of and contributors to income change between the two sets of couples are net of differences in age structure.

Because calendar month of widowhood is different for each eventually widowed woman yet we want to compare households by months prior to and after widowhood, we choose an approach first used by Zick and Smith (1991a) in which we assign a month of "widowhood" to each continuously married couple in such a way that the distribution of "deaths" by calendar month for the continuously married couples is identical to that of the actual deaths for eventually widowed couples. We flag all pre- and post- widowhood months accordingly around the month of actual death for eventual widows and assigned death for the continuously married. While the continuously married couples are in fact never widowed, arraying their monthly incomes around an assigned widowhood month allows us to control for the effects of other shocks that may destabilize income for all couples--both married and those about to be widowed--during all months of "pre- and post-widowhood."

The Results

Descriptive statistics for the eventual widows and continuously married couples appear in Table 1. In the two months preceding the death the eventual widows average 0.6 lower income-to-needs (using the standard U.S. Census Bureau needs calculations) than their continuously married counterparts. Their income-to-needs ratio drops by 0.73 on average immediately after the death, while the continuously married couple's experience virtually no change in income over this period of "widowhood."

When comparing the two age-adjusted samples on other sociodemographic characteristics, we find that the eventual widow households are similar to their married counterparts in terms of education, ethnicity, and household composition prior to widowhood. What's more, the percentage of wives reporting receipt of income from earnings, pension, and social security is almost identical across the two groups. There are, however, marked differences between the two groups in the pre-widowhood months for the husbands' income sources. Husbands who are about to die are more likely to be drawing on social security and pension income and less likely to have labor income than are their married counterparts. This is not surprising given the greater frequency of disabled husbands in the to-be-widowed sample and husbands' pending deaths.[3] Immediately after the husbands' deaths, there is no change in household composition or

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in the percentage of wives working. Not surprisingly, the percentages of women receiving a pension and social security rise above that of their married counterparts, although in contrast to the 61 percent of men who were receiving pensions prior to their deaths, only half that many widows receive a pension.

Table 1.
Descriptive Statistics*

Variable	Eventual Widows Pre-wid.	Eventual Widows Post-wid.	Always Married Couples* Pre-wid.	Always Married Couples* Post-wid.
Income/needs	3.40	2.67	3.98	3.91
Wife	0.24	---	0.26	---
White	0.89	---	0.90	---
Other adults present	0.16	0.17	0.17	0.18
Minor children present	0.03	0.04	0.06	0.06
Wife's age <60	0.19	---	0.18	---
Wife's age 60 - 64	0.14	---	0.16	---
Husb.disabled & <70	0.29	---	0.12	---
Husband not disabled &<70	0.19	---	0.39	---
Wife has earnings	0.17	0.16	0.17	0.17
Husband has earnings	0.19	---	0.27	---
Wife has pension	0.17	0.31	0.17	0.17
Husband has pension	0.61	---	0.49	---
Wife has social security	0.75	0.81	0.75	0.75
Property and interest income	0.77	0.74	0.86	0.85
Other Income	0.30	0.15	0.14	0.12

Income-to -needs is averaged over months-2 and-1 for the pre-widowhood period and +1 and +2 for the post-widowhood period.

* For variables other than income-to -needs, the pre-widowhood measure takes on a value of 1 if the condition is met in at least one of the three months prior to the husband's death. The post-widowhood variables take on a value of 1 if the condition is met in one or more of the three months that immediately follow the husband's death.

We estimate regressions using dependent measures that capture the two major differences between our couples: (1) the income/needs level in the months immediately preceding the death and (2) the change in income/needs between the two-month average that immediately precedes the death and the two-month average that immediately follows the death. We run regressions where the eventual widow and continuously married samples are combined and a dummy variable reflecting group membership is included (model A). We also run regressions where sample membership is interacted with all of the other independent variables (model B) and where estimation is done separately for each sample (model C). While models B and C are statistically equivalent, model C offers a more straightforward presentation of the results than model B. We need model B, however, to conduct an F-test to identify whether models A or C should be preferred statistically. F-tests indicate that model A is preferred in the case of estimating income-to-needs in the month preceding the widowhood, while model B/C is preferred when estimating the change in income-to-needs at the time of the death. We choose to focus on the results for the preferred models although the estimates for the alternative formulations are available from the authors upon request.

The parameter estimates for the descriptive regressions appear in Table 2. It is not surprising to see that the coefficient associated with being in the to-be-widowed group has a negative and statistically significant effect on the pre-widowhoodlevel of income/needs(col. 1). Being white, being a wife with more than a high school education, and being a wife who is age 60-64 are all socio-demographic factors that are associated with higher levels of income-to-needs for both groups. In contrast, having minor children present and having a husband who is disabled contribute to lower income-to-needs for households. Interestingly, while the presence of property and interest income, husband's labor income, wife's labor income, husband's pension income, and wife's pension income are all associated with higher levels of income-to-needs, receipt of social security and other income are not. This does not mean that the receipt of social security has no effect on couples' well-being, but rather that receipt of benefits from this universal program does not place couples in higher or lower income-to-needs categories. This preferred model suggests that there are long-standing differences in economic status levels between the two groups ; the lower income-to-needs of eventual widows is not due to differences in the effect of variables on the economic conditions of these couples in the months just prior to husbands' deaths.

Turning to the change regression, (col.2+3) we focus our discussion on the coefficients associated with the widowed sample. In this table, the coefficients obtained with the intact couple sample can be viewed as a benchmark for comparison: specifically, they allow us to assess how sociodemographic characteristics and the receipt of income from various sources enhance or inhibit changes in economic well-being more generally, when the death of the husband is not the catalyst for change in both regressions. We include a control for income-to-needs at month "-1." This takes account of the initial conditions from which both samples begin. We also include the dummy variable that identifies which panel the household came from, and a dummy variable that identifies whether the change in income-to-needs is calculated using the "seam" months in SIPP (Dodge, 1995; McGarry, 1995). Defining the dependent variable as post-widowhood income minus pre-widowhood income means that a positive coefficient implies a *smaller* drop in income-to-needs upon widowhood. Conversely, a negative coefficient implies the variable increases the decline in income-to-needs.

Table 2
Predictors Pre-widowhood income and of change in Income/Needs

Variables	Pre-wid. Inc.[a]	Change in income/needs[b] Widows	Married
Intercept[b]	0.89**	-1.48**	0.16
Eventual widows	-0.33**	---	---
Income/needs month "-1"	---	-0.53	-0.24**
Wife's edu. (1=12+)	1.49**	1.27**	0.06
White	0.93**	0.73	0.24**
Other adults present	0.21**	0.39	0.25**
Minor children	-1.34**	0.12	-0.01
Husb. disabled &<70	-0.60**	0.06	0.29**
Husb. not disabled &<70	0.20**	0.25	0.56**
Wife has labor income[b]	-0.79**	1.27**	0.15
Husb. has labor income	2.11**	---	---
Wife's age <60	-0.08	-0.01	-0.03
Wife's age 60-64	0.48**	-.55	0.22*
Wife has pension	0.31*	1.36	0.14*
Husband has pension	0.79	---	---
Wife has social security	0.08**	0.35	0.11
Husband has social security	-0.27	---	---
Property and interest income	1.12**	0.62	0.51**
Has other income	0.19	0.85**	-0.06
Panel year(1=1991,0=1990)	-0.02	0.10	-0.08
Death in "Seam"Month	---	0.32	-0.17**
Adjusted R^2	0.27	0.34	0.15
F-Statistic	53.18**	11.62**	27.19

a) Dependent Variable: Income to Needs in 2 months prior to widowhood
b) Dependent Variable: Post-Widowhood Minus Prewidowhood Two-Month Averages
* <.10
** <.05

The estimated coefficients show that being white and having more than a high school education appear to protect widows from large economic declines when their husbands die. Consistent with previous studies is the finding that a higher pre-widowhood income leads to a larger decline in income upon widowhood. Higher income wives have more to lose upon widowhood and survivor benefits from social security and pension may replace a smaller share of pre-widowhood income. In addition, beyond their roles in enhancing pre-widowhood income-to-needs, income from paid work, pensions, and assets all provide protection against large income declines upon widowhood. The magnitude of the estimated coefficients suggests that the receipt of labor income and pension income is especially protective of wives as they are widowed. While asset income is also protective, it is no more so for widows than for married couples. Interestingly, the only income source that appears to not operate to lessen the severity of the economic decline that occurs at widowhood is social security income. Again, this is likely to be because of the broad based receipt of benefits from this program by widows; receipt (in contrast to PIA amount) does not differentiate women who have greater or smaller income changes. Finally, we note that husband's disabling condition does not affect the widow's economic status beyond its effect on pre-widowhood income.

Discussion and Conclusions

Even for women who became widows in the early 1990s widowhood remains an economically risky event. Widows are disadvantaged because before they entered widowhood, their incomes adjusted for household consumption needs were already significantly lower than for their continuously married peers. In addition widowhood was accompanied by a large decline in average income-to-needs. These results are unexpectedly similar to those of earlier

55

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studies that looked at widowhood during the 1970s and 1980s. Despite gains in income among the elderly, pension legislation that aims to protect women against the loss of their husbands' earnings and pensions, and increases in labor earnings among women, on average women continue to experience a major drop in economic well-being when husbands die.

Our understanding of the relative importance of sociodemographic and economic factors in explaining the relatively disadvantaged economic situation of widows prior to their husbands' deaths remains poor. The similarity in demographic characteristics between the two groups of couples prior to widowhood and the striking absence of interaction effects between widowhood and the other independent variables in the pre-widowhood income-to-needs level equation shows that these two groups of couples are similarly affected by socio-economic conditions. What distinguishes them in the pre-widowhood period is the husbands' disabling conditions.

The current work does identify several income sources that appear to be critical in cushioning the economic shock of widowhood. We find that the receipt of earned income or pension income—even though receipt of the latter does not continue to all widows of pensioners--significantly lessens the economic decline at the time of the death. In this context, it is all the more sobering to recognize that a mere 16 percent of the newly widowed women in our sample had labor income and only 31 percent had pension income in the months immediately following the death. While receipt itself of social security does not distinguish among widows with larger or smaller income declines, it does appear to provide a floor of protection, thus reducing the chances of entering poverty for young widows and perhpas for those whose husbands were receiving disability-related benefits.

Another consistent finding in this study is that race and education matter. White widows fare better than nonwhite widows and widows who have more than a high school education fare better than those who do not. In large part, these variables may be capturing differences in the *amounts* of various types of income that are received by certain household types.

From a public policy perspective, it is clear that the risk faced by widows needs to remain on the national policy agenda. Despite the potential for women's work and pension coverage to protect against the economic consequences of widowhood, this protection is still far from universal. If pension legislation, the expansion in social security coverage, and wives' own greater work roles have soothed couples into thinking that the wives are protected against the economic consequences of widowhood, it appears that education to the contrary may be in order.

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Endnotes

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3. The disability variable comes from a core question on disability that is updated at each interview. It is asked of persons under 70 and thus reflects being disabled and below retirement age. Because the two samples are weighted to achieve age comparability, differences in disability rates between the two samples reflect disability among the working age population.

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Beyond Control? Understanding Consumer Behavior Using a Measure for Consumer Locus of Control

Does a consumer always have the control over purchase decisions assumed by traditional economic theory? We discuss research in which a psychological construct, "locus of control", is applied specifically to consumer decisions. A Consumer Locus of Control Scale is constructed and its predictive power tested using a set of interview questions regarding personal shopping habits. Scores on the Consumer scale are related to important differences in shopping behaviors.

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"Our faults as spenders are not wholly due to wantonness, but largely due to broad conditions over which as individuals we have slight control." (Mitchell 1912, p. 269). At the turn of the century, Wesley Clair Mitchell recognized the challenge faced by consumers wishing to buy goods and services. The small scale of purchasing and the lack of reliable resources at the consumer's command led Mitchell to observe that effective decision-making could be beyond the consumer's control. Some of the crucial public goods which Mitchell felt were missing (pure food laws, for example) have since been provided in many countries. Even so, the number of technical demands on the consumer has increased while the scale of the consumer's specialization has remained as small as the family unit. This has added importance in nascent consumer markets of developing countries and even in today's most developed countries - many consumers may feel they cannot exert much control over the quality, safety and satisfaction afforded by the goods available for purchase. Personal control over economic outcomes may not be a reasonable assumption for all consumers.

Some economic theory has placed a focus on the way that uncertainty and cognitive limitations (Thaler, 1980; Tversky and Kahneman, 1974) reduce one's ability to make reliable decisions. Further, consumers may lack the economic understanding and problem-solving abilities that would allow them to act in ways in which economic theory would posit as optimal (Morgan 1968; 1988). For example, shoppers may not know how to make use of available information even for products that they purchase regularly (Russo 1988). A growing body of economic research (Hoch and Ha 1986; Kahneman and Tversky 1979; Knetsch 1989) documents how human behavior might be better described by moving beyond the assumptions of traditional rational choice models which ignore characteristics of individuals within populations and fail to consider that all people do not conduct economic behavior according to the same sets of rules. Katona (1975) has argued that the effects of intra personal variables that intervene between economic stimuli and economic response are not predictable from economic variables alone.

This paper examines individual differences in consumer behaviour between those who are and those who are not strategic shoppers (making purposive and deliberate decisions) based on the extent to which they believe they can personally influence the successes and failures in their lives. Mitchell's description suggested conditions that were actually beyond the consumer's control in 1912. Our research suggests that personal differences in *perceived* control make the essence of Mitchells concern relevant today.

The Locus of Control Construct

The personality construct locus of control (LOC; Rotter 1966; Lefcourt 1982) has held an important position in personality research since its introduction in the mid-1960's. Locus of control comprises beliefs about one's role in determining personal life outcomes. It is considered a generalized expectancy regarding the contingency between personal actions and their outcomes (Lefcourt 1982). People are described as holding 'internal' locus of control beliefs when they perceive themselves as active and effective agents who determine their own life outcomes. Others are described as 'external' if they believe that what happens in their lives to be determined by forces beyond themselves such as luck, chance, fate, or powerful others.

Rotter first introduced a general locus of control scale (I-E Scale) into the psychological literature in the late 1950s and several thousand studies have reported upon its use (Lefcourt 1991). Control beliefs may be assessed for general life events as well as in specific belief areas, but LOC measures have been shown to be most useful when designed to measure expectations in particular goal areas (Lefcourt 1982). Furnham (1986) has developed an economic LOC scale dealing with beliefs about personal control over outcomes related to saving and investment and attitudes towards poverty and wealth. Though broadly related to our concerns with consumer behavior, it does not directly query beliefs about shopping outcomes. In this paper we discuss the recent development of a LOC measure that specifically targets consumer behaviour (Busseri, Lefcourt and Kerton 1996).

In certain belief areas, internal control beliefs have been found to be associated with more active attention to and assimilation of information pertinent to those outcomes, with purposive decision-making, and confidence in the ability to succeed at valued tasks (Lefcourt, 1982; Lefcourt and Davidson-Katz 1991). In the pursuit of goals, internals have been found to make more discriminating use of resources and social support than do externals; other studies have shown that internals are more resistant to social influences while externals are more attentive and yielding to social cues (Lefcourt 1982).

Externals may be less likely to seek the help of knowledgeable others or to search out information about a product before buying it. Externally oriented people might also allow other sources (television ads or pushy salespeople) to influence their decisions. We can also surmise that beliefs about control of consumer experiences would be useful for predicting the amount of effort expended and awareness of methods that can minimize uncertainty in shopping. Shoppers found to be internal for consumer-related LOC beliefs should report higher degrees of product knowledge and shopping skills, and should be more likely to engage in budgeting, bargain-hunting etc., than their external counterparts who may consider such actions to be pointless.

A small number of studies have attempted to link general LOC beliefs to economic behaviour. Internals have been found to be more interested than externals in a subset of consumer goods that offered small risk of personal dissatisfaction (Rudnick and Deni 1980). Internals were less likely to experience financial difficulties and to act impulsively, were more likely to plan ahead, to act according to a plan and to be well informed (Dessart and Kuylen, 1986), to be more regular savers (Lunt and Livingstone 1991), have fewer problems with personal debt (Livingstone and Lunt 1992), and more likely to use consumer credit successfully (Tokunga, 1993).

Related Research

Decisions of internal shoppers may closely approximate the classical economic notion of maximizing behavior. The logical approach to shopping for them may include an analysis of the costs and benefits of each unit of market search. These costs and payoffs may depend, in part, on the legal and institutional support available. This support differs substantially among countries (rich and poor) and among markets. Kerton (1992) has discussed the perceived difficulty of consumer choices as a ratio between the size of the challenge and the resources available to meet that challenge such as education, market experience, and consumer protection legislation. Kerton (1980) had earlier proposed the concept of Consumer Search Capital (CSK) as one's collective stock of specific and general decision-making principles which increases the effectiveness of consumer decisions. One's CSK grows with personal experience and as a function of the creation of public goods like a food and drug administration, weights and measures laws, and truth in sales provisions.

Russo (1988) extended the consumer search approach where expected benefits must exceed expected costs if product information is to be sought and used. Tangible, well-recognized economic benefits and costs (such as utility, time and money) are included in combination with "intangibles". Intangible benefits include personal satisfaction and a positive buying experience; intangible costs include potentially negative shopping experiences. From our perspective, we might expect internals to anticipate high benefits (tangible and intangible) given their belief in personal effectiveness. Externals, however, may anticipate that their efforts would produce few benefits coupled with daunting intangible costs, such as the inability to justify one's decision process privately or publicly. This again leads us to predict relatively greater effort and information acquisition from internals in contrast with externally oriented shoppers who may view shopping as more difficult. Persons who hold internal control expectations for consumer experience may have greater CSK, bringing more personal resources to bear upon their decision-making which may result in further accumulation of product knowledge, shopping skills, and experience with information gathering. In contrast, consumers characterized by a lack of perceived control may view shopping as overwhelming and therefore, something to be done quickly or avoided altogether. Consequently, they may not increase their CSK in a deliberate and purposive manner, despite continuous shopping experiences.

Busseri, Lefcourt and Kerton (1996)

We constructed and tested a measure of locus of control that could be used to predict consumer behavior. Our approach to this task was to develop a scale pertinent to consumer experiences and to assess its relationship with shopping behaviors that ranged from seemingly impulsive and thoughtless, to strategic and knowledgeable ways of making purchases. Two studies document the development of the Consumer Locus of Control scale (or CLOC) and its incremental value as a predictor of consumer behaviour.

In Study One the development of the CLOC is described along with the assessment of its internal consistency and its pattern of relationships with two other locus of control scales - the Economic Locus of Control scale (ELOC; Furnham, 1986) and the General Locus of Control scale (GLOC; Rotter, 1966). The tests revealed that the 14-item CLOC scale was internally consistent, producing one factor comprising all internal and external items. As predicted, CLOC scores were moderately related to scores on the other two LOC scales. Results replicated in two large and distinct undergraduate samples.

Given the reliability of the 14-item CLOC measure, we assessed its validity as a predictor of consumer behavior in Study Two. Detailed, semi-guided interviews concerning personal shopping histories and anticipated shopping activities were conducted to assess the ways in which persons went about the task of purchasing consumer goods. Interviews were independently scored; ratings were assigned for evidence of product knowledge, shopping effort expended, and thought invested before the purchase. We expected that scores on the CLOC scale, itself tailored specifically to consumer beliefs, would provide a stronger prediction of consumer behavior than either ELOC or GLOC scores. Further, we expected that the more internal one's beliefs for consumer LOC, the more likely they were to be planful and purposive shoppers, compared to more externally oriented consumers.

Table 1

Factor Loadings and Reliability Tests of the 14-item Consumer Locus of Control Scale.

		Item Loadings by Sample	
		A	B
CLOC item		(n=229)	(n=130)
External	2	.36	.31
	6	.32	.42
	9	.55	.58
	12	.55	.51
	15	.59	.43
	18	.67	.68
	19	.36	.56
	20	.61	.66
Internal	1	.56	.69
	4	.44	.37
	5	.42	.19
	7	.61	.39
	8	.42	.51
	13	.59	.48
Eigen value		3.7	3.5
Variance accounted for		27%	25%
Cronbach alpha		.77	.76

Table 2

Correlations among Locus of Control Scales.

Scale	Sample	GLOC	ELOC
CLOC	A	.17 **	.28***
	B	.21 **	.14*
GLOC	A		.25***
	B		.44***

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3

Correlations between Consumer Behavior Scores and Locus of Control Scales.

Score	CLOC	ELOC	GLOC
Total	-.48 ***	-.03	-.20
Thought	-.28 *	-.12	-.19
Effort	-.39 **	.09	-.07
Knowledge	-.46 ***	.03	-.15

Note. N = 52; higher scale scores indicate greater external beliefs. * $p < .05$, ** $p < .01$, *** $p < .001$

Indeed, the more internal a shopper was with regard to consumer locus of control beliefs, the greater their thoughtfulness regarding what was involved in buying the good, the greater the effort expended in seeking out purchasing information, and the greater their knowledge about the product at time of purchase. In contrast, subjects found to hold relatively more external CLOC beliefs showed evidence of less shopping and greater impulsivity. Evidence of the CLOC scale's incremental validity was shown by a stronger relationship between CLOC scores and consumer behavior, than between consumer behavior and either GLOC or ELOC scores. In fact, CLOC scores were the only significant predictor for reports of consumer behavior.

Results from both reported studies provide evidence for the relevance of locus of control beliefs in the consumer domain. Differences in shopping behavior can be predicted through consideration of shoppers' beliefs about their ability to effect personal shopping outcomes.

Implications

At the turn of the century, Mitchell (1912) recognized challenges faced by consumers over which they would likely have had little control. Today, despite the complexity of some product markets, it does seem that some people are able to shop successfully - perhaps even in a way characterizable as optimal. Others, however, are inclined to believe that there is little they can do to influence their purchase outcomes, and their behaviour would seem impulsive.

Success with CLOC scores in predicting differences in consumer behavior points to the CLOC scale as a potentially valuable instrument for understanding behavioral differences in other areas of consumer interest. Other researchers have reported only modest success with using LOC beliefs as predictors for consumer behavior. For example, "inconclusive" results are reported in earlier work exploring the relationship between LOC and consumer satisfaction / complaining behavior (Mayer, 1982). We argue that this might be attributed to the use of *general* locus of control beliefs to predict consumer behavior instead of more appropriate domain-specific beliefs, such as those assessed by the CLOC scale.

It would be of great interest to test if internally oriented shoppers are more satisfied consumers whose choices differ from those made by less informed and less purposive shoppers. Further, Maynes and Assum (1982) have demonstrated that many consumers have seriously inaccurate perceptions about price dispersion and are unaware of the low (or negative) correlations between price and quality of products (Bodell, Kerton and Schuster 1986; Geistfeld 1988; Scitovsky 1944-45). External shoppers, seeing no reward for deliberate search, may be most likely to fall prey to such misconceptions and to be vulnerable consumers who repeatedly buy "duds".

While policies aimed at eliminating these problems might serve to improve the availability of market information, many externally oriented shoppers may not even benefit from such improvements due to their limited research into both price and quality. People who differ in CLOC beliefs respond to consumer challenges in different ways. This points to a need for responsible government policies which reflect the implications of reduced consumer protection for different kinds of shoppers. Morgan (1996; personal correspondence) has noted, "crucial policies are currently made based on untested assumptions about whether people have choices, and whether they understand the implications of those choices, and even what matters to them."

We might further speculate about the potential role for LOC in explaining other areas of economic research. As an example, Salop (1977) suggests that a "noisy monopolist" can benefit from splitting the market by offering the same good at two different prices and charging a higher price to less efficient shoppers. Externally-oriented shoppers, having less information and less awareness of substitutes for the noisy monopolist's product may pay the higher prices in contrast to the informed internal consumer. In addition, the CLOC measure may be able to sharpen our focus for environmental policy given that some research has indicated that perceived control is a promising variable for waste-reduction and recycling behaviors (Olander and Thogerson 1995).

Further, locus of control expectations have much to offer in explaining the "Discouraged Worker Effect" in labor markets where, at times of high unemployment, some workers may come to believe that it is impossible to locate a job due to a host of reasons perceived to be beyond personal influence. For people with such externally oriented beliefs it may seem entirely sensible to withdraw completely from the labour force by ceasing to look for work.

Finally, there indeed may be some framework institutions (like weights and measure laws, or truth in exchange provisions) which comprise basic social capital that allow markets to function (Kerton 1980; Sen 1981). If so, these institutions affect the degree of control that consumers have over market decisions. Research on consumer control points to a profound up-weighting of the importance of pro-competition policies in developed and less developed economies alike. While it is true that a market can be workably competitive even when some participants lack the degree of perceived control normally taken for granted, there may well be a need for a critical mass of "deliberate" decision-makers if markets are to function at all.

In summary, our research highlights a role for consumer locus of control beliefs in the determination of consumer behaviour and broadens the notion of 'representative consumers' into those who believe they can personally affect success as consumers and those who feel that such outcomes are beyond their influence.

Appendix

Consumer Locus of Control Scale

Below are some statements regarding different shopping issues. For the purpose of this questionnaire, a "bad" purchase is any item that you have bought that turned out to be unsatisfactory (overpriced, poor quality, or not needed after it was bought). Similarly, a "good" purchase would be any item that you bought that ended up being satisfactory (good performance, fulfills a need, competitively priced). Some people agree with these items and others disagree, but there are no right or wrong answers. Please give us your opinion by circling a number below each item that best reflects your feeling about the statement.
The choice of numbers ranges from one to five where:
1 - means you strongly disagree 2 - disagree 3 - neutral 4 - agree 5 - strongly agree

1. If it happens that I buy an unsatisfactory item, I try to do something about it.
2. Sometimes when I don't know much about a product, I might as well decide which brand to buy just by flipping a coin.
3. There are times when I see something and I can't help but buy it. *
4. Usually, when I plan to buy something I can find the best deal.
5. Making good buys depends on how hard I look.
6. There have been times when I just could not resist the pressure of a good salesperson.
7. Being able to wait for sales and looking for information about the item has really helped me get good deals.
8. I have often found it useful to complain about unsatisfactory products.
9. It's hard for me to know whether or not something is a good buy.
10. Getting a good buy depends mainly on my being in the right place at the right time. *
11. If I get ripped-off it's usually my own fault. *
12. To me, there's not much point in trying too hard to discover differences in quality between products.
13. Usually I make an effort to be sure that I don't end up with a "lemon" when I go shopping.
14. When I've gotten ripped-off its because I was just plain unlucky. *
15. I find that there's no point to shopping around because prices are nearly the same everywhere.
16. In my experience, getting poor service comes from not knowing how to get good service. *
17. I have been helped a great deal when I have used product testing magazines. *
18. When I buy something unsatisfactory, I usually keep it because complaining doesn't help.
19. Sometimes I can't understand how I end up buying the kinds of things that I do.
20. I am vulnerable to rip-offs, no matter how hard I try to prevent them.

(* indicates items excluded from final scale analyses.)

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Who Leaves the Farm?
An Investigation of Community Supported Agriculture (CSA) Farm Membership Renewals

This study examines the factors that influence a consumer's decision not to rejoin a community supported agriculture farm. Using concepts from household production theory and the economics of consumer complaint behavior, a bi-nomial logit model is estimated. Results indicate that variables representing household production have the greatest effect on the probability not to re-join a CSA farm. Satisfaction with cost is also important. To increase satisfaction and keep members, CSA farms should stay attuned to price and work on ways to decrease necessary consumer outlays of time to membership.

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Introduction and Background

There is growing evidence that Community Supported Agriculture (CSA) is a viable option to support locally grown produce and to connect consumers with the source of their food supply. It is estimated that there are at least 566 CSA projects in the U.S. and Canada, and hundreds more around the world (Bio Dynamic Farming, 1996). The question of who becomes a member of a CSA farm has begun to be answered by several researchers. However, anecdotal evidence suggests that once a consumer decides to join a CSA farm, there is no guarantee that a long term relationship will develop. In fact, it is estimated that one-third or more of the members do not rejoin their CSA farm after each season of membership (Jones, 1996). This study investigates the factors that influence individuals to leave CSA farms. It utilizes an interdisciplinary approach combining concepts from household production theory and the economics of consumer complaint behavior to lend new insight into an issue of concern for sustainable agriculture.

CSA is a form of direct marketing of agricultural products which connects the farmer and consumer. Some of the risk of farming is distributed back onto the consumer, and in return the consumer has a chance to become more involved in the process of growing his or her food, and may feel more connected to both the food system and the natural environment. Members generally pay an up-front fee which allows the farmer to purchase seed, fertilizer, and equipment and gives him or her a guaranteed salary for the season; the member receives a share of the weekly harvest and may be asked to help with weeding or harvesting at some point in the season (Smith, 1994). The CSA movement began in Europe about 30 years ago when farmers decided to do something about the fact that they were losing market share, as well as the ability to produce diverse crops, and were maximizing production quantity rather than quality (Cohn, 1993). The birth of the movement in the U.S. occurred in 1986 (Bio Dynamic Farming, 1996).

CSA results in an economic relationship which includes values other than just cheap food and profit maximization. It affords farmers a security which is not often achievable without large-scale operations, and offers consumers greater contact with the producers of their food, and with the process itself. As a tool to be used in the attempt to address the negative aspects of our current food system, CSA seems to have promise.

However, increased contact of consumers with their food supply does not come without a cost. One major cost is the price of a consumer's time. This price should be accounted for in modeling the demand for CSA farm membership as the choice to become a member is essentially a choice to spend more time in household production. Most CSA farms require members to come to the farm to pick up produce. Although it is washed, most of the produce is presented to the consumer in its "original" form. That is, all produce is in bulk form: root crops have green tops which must be removed, brussel sprouts come attached to the stalk, etc. And, since most members do not subsist entirely on food obtained from the CSA, they must spend some time shopping at other food marketing outlets as well as the time spent in pickup, and in processing of the raw vegetables. The theory of household production is key in the examination of who decides not to re-join a CSA farm because it highlights costs of membership which may be a barrier and are not fully accounted for in the neoclassical model of demand.

Review of Literature

Most of the CSA literature is descriptive, anecdotal, or instructional in nature (see Demuth, 1993). Suput (1992), Laird (1995), and Kelvin (1994)conducted small sample analyses of CSAs to examine economic viability and benefits. Generally, all the findings point to the fact that positive benefits to consumers include high quality food, increased sense of "community," organic food, and variety. Convenience and pick-up schedule are problem areas for CSAs. Many consumers find that pick up times are limited and making an extra trip for part of a household's weekly groceries is inconvenient.

Organic or low-input production methods are an important aspect of the CSA philosophy. Therefore, research investigating consumer attitudes and behavior relating to organic food and direct marketing gives insight into consumer attitudes toward CSA membership. During the 1980s, consumption of organic produce increased dramatically due primarily to four factors: health concerns lead to a desire for a low-fat high-fibre diet; perceived health risks were associated with consumption of food additives; a perception of danger was associated with agrochemical residues; and there was an increasing awareness of the environmental damage associated with modern agricultural techniques (Stopes, 1989).

A marketing study done in New York State (AHF, 1992), and studies by Goldman and Clancy (1991), Cook (1992) and Oelhaf (1978) found that individuals who buy organic produce are more concerned with safety and environmental impact than with appearance. Their findings also indicate that organic food consumption may have a link with environmental concerns. Stuhmiller (1976) and Cook (1992) found that direct connections between consumers and farmers leads to increased satisfaction, and note that organic food is not often found in supermarkets, perhaps due to a lack of flow of information between seller and consumer. This may explain why initial interest in organic foods at supermarkets waned quickly, yet people continue to purchase organic food from health food stores. Pelch (1996) examined factors that influence the probability of joining a CSA farm. Higher prices of membership increased CSA membership probabilities, while family structure, including presence of younger children in the household, decreased membership probabilities. Finally, more highly educated individuals had a greater probability of becoming a member.

Despite the growing literature about what prompts individuals to join a CSA farm, there is little research that describes who chooses to leave a CSA farm once they become a member. Pelch (1996) conducted a bivariate analysis that examined factors associated with consumer satisfaction and plans to rejoin a CSA farm the next season. General dissatisfaction, lack of variety of produce, lack of availability of farm products other than produce, and dissatisfaction with pickup of produce were all associated with consumer plans not to rejoin a CSA farm. Pelch and Kolodinsky (1996) investigated the possibility that CSA farm members obtain utility from time spent in activities associated with membership. They concluded that while picking up produce resulted in providing some satisfaction for members, time spent putting produce away at home created dissatisfaction. Since both these time uses constitute a necessary output of time for consumers, it is possible that individuals leave CSA farms because of dissatisfaction with the time commitment required.

Anecdotal evidence from CSA farmers indicates that a significant portion of members change from year to year, indicating that many consumers of CSA fail to develop a long term relationship with their member farm. Yet, the customer satisfaction literature clearly points out that it is more cost effective to keep customers than to continually search for new customers (Cohen, 1973; Reichheld & Sasser, 1990); and that satisfied customers are more likely to repurchase a product or service (Droge & Halstead, 1991; Kolodinsky, 1993).

Methodology

Why does the relationship cease to exist for so many members? The literature points to several possible reasons: the price of share may be too high, the price of time may inhibit individuals from engaging in this type of household production, or consumers may be dissatisfied with certain aspects of their membership.

To describe the decision not to re-join a CSA farm, we expand on the framework proposed by Kolodinsky (1995). A consumer maximizes a short-run utility function in each of several periods in order to obtain "optimal" levels of demand. After demand is ascertained in any given period, consumers learn whether their behavior was "sub-optimal." When demand for goods and services is not optimal, consumers can take action. Consumers adjust their preference structures and demand for goods and services becomes a function of demand in the previous period, prices, income, and preference and productivity shifters.

Although the model does not explicitly include household produced goods, it can be easily expanded. We modify the model slightly to include the fact that membership in a CSA farm implies engaging in household production (Becker, 1965).

The action we model is exit from the market (Hirschman, 1970), specifically, an individual's decision not to renew membership. A CSA farm member's utility function can be written:

$$U = v[M_t(x, h), O; P] \qquad (1)$$

where
U = utility
M_{g}= Membership in CSA farm in period t, t= 1,2,....T
x = purchased inputs into CSA farm membership
h = time inputs into CSA farm membership
O = all other goods
P = vector of taste shifters

subject to

$$Y_t = P_{mt}M_t + Po_tO_t \qquad (2)$$

where
Y_t = income in period t
P_{mt} = Price of membership in period t
P_{ot} = Price of other goods in period t

In equation (1) M_t requires an output of both purchased inputs (the price of the CSA farm share) and time (pick-up and put away time). Preference and productivity shifters include variables that impact the productivity of household members. The budget constraint in equation (2) is really a full income contraint since the price of membership includes both a time cost to pick-up and put-away produce, and a purchased input cost that includes the dollar cost of membership. Time costs have been included in a few studies of consumer complaint behavior (Kolodinsky, 1995; Kolodinsky, 1993; Kolodinsky, 1990). Maximizing (1) subject to (2) yields the demand eqation for membership in a CSA farm.

Data

There are very few known data sets that include information on the demand for CSA farm membership. Though not specifically collected for the purpose of estimating ex-membership, one data set collected in a northeast state in 1995 provided most of the information necessary to estimate the probability of not re-joining a CSA farm. Data used in this study were collected via phone survey during October of 1995. Members of the largest CSA farm in the state were surveyed. The population of members was 277; 184 usable responses gave a response rate of 66%. The population of ex-members was 123; 57 useable responses gave a response rate of 46%. Member and ex-member phone numbers were obtained from the farms. The first column of Table 1 describes the sample.

Information about household structure, satisfaction with the CSA experience and consumer preferences was available. Several variables measure the time costs associated with membership. Because the wage of the person who picks up the member share was not available, several proxy variables are used to measure an increase in time cost. Income level includes two dummy variables: low income (earning less than $15,000 per year) and high income (earning more than $50,000 per year). As with many data sets that do not include information on individual wages, the effect of income will contain both an income and substitution effect on demand for CSA farm membership. Marital status, and the number and ages of children represent increases in the price of household time. Two variables which relate to the recycling behavior of the household are included that potentially decrease the cost of membership. As previous research has shown that socially responsible behaviors are associated with CSA farm membership (Pelch, 1996), whether a household recycles as much as it can and the amount of garbage produced by the household are included as independent variables. Investment in these types of behaviors may increase human capital associated with socially responsible behavior. Having a garden competes with time necessary for pickup and may be a substitute for produce purchased from a CSA farm. Whether a household shops at a supermarket or smaller venue for their winter vegetables is an indication of the increase in cost for obtaining produce from an additional venue, namely the CSA. Older individuals may be adverse to changing their shopping habits and may not wish to use CSA farm membership as a way to obtain produce.

Individual dissatisfaction with three aspects of farm membership were collected: dissatisfaction with the variety and amount of produce, the cost of membership, and pickup systems.

Empirical Model

The log odds of re-joining a CSA farm is written:

$$\log \frac{\text{Probability of re-joining}}{1 - \text{Probability of re-joining}} = \beta_0+\beta_1 Z_1+\ldots+\beta_k Z_k \tag{3}$$

In the model estimated β_0 represents the intercept and β_k represents the coefficients on each of the variables, Z_k, included in the equation.

Results

The last column of Table 1 presents the results of the logit estimation procedure. These parameter estimates indicate the change in the log-odds of not re-joining a CSA farm and are not directly interpretable as changes in the probability of becoming an ex-member. However, these coefficients are used to estimate the probability of non renewal of membership and the effect of each significant variable can be seen using different values of that variable.

Five of the productivity variables included in the analysis are significant. If a household produces more than two 30 gallon bags of trash per week, or if the household has a garden of its own, the probability of re-joining a CSA farm is reduced. Being married or co-habitating, increases in the number of individuals in the household, and presence of children under age 12 all decrease the likelihood of re-joining a CSA farm. If a household can be classified as high income, the probability of renewing membership increases. This coefficient contains two effects: a substitution effect and an income effect. In the case of CSA farm membership, a higher cost of time should lead to a substitution away from CSA farm membership towards an increase in purchased inputs into meal production. Thus, there is some expectation of a negative coefficient. However, it appears that CSA farm membership is a normal good and the income effect outweighs the substitution effect, for a net positive effect of high income on membership.

Table 1.
Summary Statistics and Parameter Estimates.

VARIABLE	DEFINITION	MEAN	COEF.
INTERCEPT			9.38*** (8.99)
SUPERMKT	1 if purchases of produce are from supermarket when CSA closes	.59 (.49)	.29 (.23)
ORGANIC	1 if purchases organic produce when CSA closes	.76 (.42)	-.26 (.25)
PRODUCED	1 if household produces at least 2 30 gallon bags of trash per week	.23 (.43)	-1.95*** (.50)
RECYCLED	1 if household recycles "most of what it can"	.97 (.18)	.21 (1.09)
GARDEN	1 if household has a garden	.40 (.49)	.32* (.22)
PEOPLE	number of persons in the household	2.74 (1.15)	-.90*** (.24)
OUTTOWN	1 if household lives "out of town"	.29 (.46)	.01 (.24)
SPOUSE	1 if married or co-habitating	.77 (.42)	-.83*** (.30)
EDUC	Years of education of respondent	16.92 (2.32)	-.05 (.09)
LOWINC	1 if household income is < $15,00 per year	.10 (.30)	.13 (.37)
HIGHINC	1if household income is > $50,000 per year	.25 (.43)	.45* (.26)
DISPROD	1 if dissatisfied with produce received from CSA	.18 (.39)	.11 (.28)
DISCOST	1 if dissatisfied with the cost of the CSA membership	.15 (.36)	-.87*** (.36)
DISFUNC	1 if dissatisfied with how the CSA farm functions	.13 (.34)	.65*** (.31)
N = 187	Log likelihood = .32 E-12		χ^2 = 104.68***

Two of the three satisfaction variables are significant. If a member is dissatisfied with the cost of the CSA membership, the probability of re-joining decreases. However, even if an individual is dissatisfied with the functioning of the farm, including pick-up and delivery systems, the probability of re-joining actually increases. The quality and quantity of produce received does not affect the probability of renewing membership.

The predicted probability of rejoining a CSA farm using the means of the data is 97%. However, when certain profiles of consumers are drawn up, the predicted probability changes dramatically. For example, for a married couple with no children who make less than $50,000 per year, and who are not dissatisfied with the cost of their CSA farm share, the probability of rejoining is 99%. However, add two additional individuals to that household and the probability of rejoining falls 11% to 88%. If a married couple household with no children, making less than $50,000 per year is dissatisfied with the cost of the share, the probability of rejoining falls to 74%

A similar simulation conducted using single adults leads to similar changes in magnitudes in the probability of re-joining a CSA farm. For singles who have no children and make less than $50,000 per year, the probability of renewing membership is 99%. However, if two additional individuals are added to that household, the probability of re-joining falls to 93%. If these households are dissatisfied with the cost of the CSA share, the probability of rejoining falls further to 86%.

Discussion

What implications do these findings have? The most striking finding is that, over and above all other variables, those representing household productivity have the greatest affect on the probability of re-joining. These variables alter the price of a household's time. Activities that increase the productivity of a household in socially responsible behaviors, i.e., recycling increase the probability of re-joining. On the other hand, activities that are not socially responsible, i.e., producing a lot of trash, decrease the probability of membership renewal. The higher the number of household members, including spouses and children, the lower the probability of membership. Increases in household size, especially children, increase the price of household time and cause competition for time spent in household activities.

Membership in a CSA farm also appears to be a normal good. Though the income and substitution effects of a change in the price of time can not be disentangled, the net effect of having an increased income is an increase in the probability of membership.

Also important is satisfaction with cost. Because the data set included ex-members, no actual cost of membership data was collected on these individuals. However, all individuals were asked how satisfied they were with cost, regardless of the actual price paid, which is, in essence, a measure of value to consumers. Those dissatisfied with the cost are least likely to re-join a CSA farm. However, those dissatisfied with pick up schedules, a deterrent to membership according to other researchers (Kelvin, 1994; Suput, 1992) did not decrease the probability of re-joining. Once the logistics of juggling a family are taken care of, households who remain members seem willing to put up with inconvenience of pickup schedules.

There are two pieces of advice that arise from the results for CSA farms who want to retain members that should ultimately increase the satisfaction of consumers with the CSA farm concept: stay attuned to the cost of membership, making sure to inform members of the value they receive for their cost, and work on ways to make the time necessary to be a member as short as possible. If customer concerns are met and satisfaction increased, it is quite plausible that the aim of community supported agriculture to connect farmer and consumer can become a reality.

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Consumer Interests Annual *Volume 43, 1997*

The Paid and Unpaid Contributions of Wives to Family Businesses

This study used data from the 1989 Survey of Consumer Finances to examine wives' economic contributions to family businesses. Wives' contributions took several forms—management of the household, working in the business, employment by others, working in the business while holding outside employment, and simultaneously holding two jobs. Wives' employment in the business was significantly and positively related to the size and duration of the business, her self-reported health status, origin and type of business.

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Introduction

In virtually all businesses owned or controlled by a single family, more than one family member is involved in the business at least some, if not all of the time. Even when it seems that only a single family member is involved, they depend upon the supportive environments created by other family members (Rosenblatt, deMik, Anderson & Johnson, 1985). Family members often subsidize the business through sacrifice, physical efforts or money (Novak, 1983).

The literature on women in family business is extremely sparse and very little of it is empirical (Bowman-Upton & Heck, 1996). There is insufficient demographic information, statistical data or systematic research about them (Salganicoff, 1990a). Yet wives, mothers, grandmothers, daughters, or sisters (blood, step-, or in-law) have often been directly, even critically, involved in the business but without recognition of their contribution, job titles or salaries (Gillis-Donovan & Moynihan-Bradt, 1990).

The cultural tradition that places women and men in different social positions, with gender-based definitions of work and home responsibilities, plays a large part in keeping women invisible in a family business. Historically, women's work roles, whether outside the family or in the family business, have been secondary to their obligation to manage and organize the domestic, emotional and social life of the family, while men organized their lives around the demands of their work (Gillis-Donovan & Moynihan-Bradt, 1990; Moen, 1992).

But many male family business owners will ask their wife to join the business as cashier, bookkeeper, secretary, office manager, or general assistant. The wife often receives no or very little pay for offering her time, thought, energy, and skills.

These strategies apply not only to wives but also to mothers and daughters. If mom comes in to help in her son's office, shop, or plant, it is often because he cannot find or does not want to pay well enough to hire other staff. This approach goes hand in hand with the belief that mom will be happier if she has something useful to do, and so he is really being kind by giving her some meaningful way to spend her time. Some of the same arguments are used when daughters (and occasionally sisters) are invited or required to help out (for free of course). By contrast, business owners rarely ask or expect fathers, brothers or sons to regularly work for the firm or store on a volunteer basis (Kaslow & Kaslow, 1992).

Men's contribution to their family's economic well-being has mainly been in the realm of paid employment. Their participation in unpaid family work generally has consisted of helping their wives with household chores, playing with their children, and performing traditionally male tasks such as lawn care, car repair, and home maintenance (Voydanoff, 1990; Berk, 1988). Women's contributions have been more broadly based, including a mix of paid employment and unpaid family work. Several types of unpaid family work make direct or indirect contributions to family economic well-being. These include housework (food preparation, housecleaning, laundry) and the care of children and ill or elderly family members, participation in their husband's work and the management of family financial resources (Voydanoff, 1990).

Wives who are involved in the family business contribute both paid and unpaid work to the family's well-being. Often there is no reduction in childcare and housework when a woman takes on some of the responsibilities for the business. Some wives hold outside employment at the same time they manage a household and work in the family business. These women put in not a "second shift" but add a third layer of obligations that have to be juggled.

It is the purpose of this paper to explore some of the contributions wives make to family businesses, using data from a large, nationally representative sample. The data were collected as part of a comprehensive survey of family financial practices. Included in the information on assets collected by the researchers was a subset of questions about family businesses. Although the breadth of the information is limited, these data represent one of the first attempts to investigate, in a systematic way, the paid and unpaid contributions made by wives who live in business families.

Methods

Data and Sample

The data for the study are drawn from the 1989 Survey of Consumer Finance (SCF) which was sponsored by the Federal Reserve Board and other federal agencies. The data were collected from personal interviews with a large number of randomly selected households in the U.S. The 1989 SCF had 2,277 households selected by a standard multi-stage area probability sampling technique. In addition, the survey had a supplemental sample of 866 high income households drawn from federal income tax files (Kennickel & Shack-Marquez, 1992). These households are included in this study and the sample was weighted to give a representative picture of the U.S. population.

In the total sample, 592 households (21%) were identified as being involved in a family business if they answered yes to two questions: (1) "Do you (and your family living here) own or share ownership in any privately-held businesses, farms, professional practices or partnerships?" and (2) "Do you (or anyone in your family living here) have an active management role in any of these businesses?" The subsample analyzed here consists of 505 households (or 96% of the business families) where the respondent was identified as a married male head of household.

Variables

Because so little of the literature on women's participation in family businesses has been empirical, it did not give much guidance in choosing the variables of interest. Also, the selection of variables were limited to those included by the Federal Reserve Board. They include the wife's age, education, self-reported health status and whether or not the wife was employed anywhere for a salary or wages. Husband's characteristics included his self-reported health status and whether he was employed in a business other than the family business. Household characteristics included the presence of children under age 18, number of persons in the household, and total household income in 1988. Business characteristics included duration, origin (started, inherited, given and other), number of employees (size), gross sales in 1988, and type of business (service, professional, sales, or other). Service firms included personal services, such as a beauty or barber shop; repair services, entertainment, communication and other business services. Included in the professional businesses were real estate firms, professional law and medical practices, business management, bank and brokerage firms, and mortgage and finance companies. The "other" category includes farming and nursery; manufacturing, contracting, construction and painting firms; and plumbing.

Analysis

Wives' participation in the family business was more varied than was anticipated. Some wives (n=107) worked for the family business only, another 209 wives worked for other employers (market employed). Fifteen wives worked for both the family firm and outside the family business. A few wives (n=40) held two outside jobs, and 135 wives were non-employed, with no hours logged working in the family business or for an outside employer. The sample of wives was divided into three groups: wives employed in the family business, wives who were employed outside the family business, and non-employed wives. The 15 wives working in both the family business and for outside employers were not included in the analyses

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Table 1
Weighted Descriptive Statistics

		Variables
	Wife Employed in Family Business (n = 107)	All Family Business (n = 505)
Continuous variables with means and standard deviations:		
Age	44.58	43.04
	(11.14)	(11.61)
Education	13.52	13.59
	(2.40)	(2.48)
Household size	3.42	3.42
	(1.25)	(1.27)
Household income	124,082	110,208
	(397,845)	(329,193)
Size of business	13.99	15.61
	(58.75)	(80.31)
Gross sales in 1988$	3,975,201	1,859,879
	(40,898,210)	(20,231,73)
Duration of business	13.85	13.10
	(11.32)	(11.05)
Categorical variables with frequencies and percentages:		
Self-rated health (wife)		
poor/fair	16 (12.8)	60 (11.18)
good	49 (38.7)	186 (37.0)
excellent	61 (61.65)	258 (51.2)
Marked employed	0	54 (10.8)
Self-rated health(husband)		
poor/fair	3 (2.7)	32 (6.4)
good	52 (40.7)	181 (36.0)
excellent	71 (56.7)	35 (6.9)
Employed in other business (husband)	11 (10.8)	35 (6.9)
Presence of children age under 18	126 (99.9)	498 (98.7)
Establishment of business		
bought/invest	29 (23.3)	110 (22.0)
started	86 (68.0)	342 (67.8)
inherited/given	10 (7.7)	42 (8.5)
Type of business		
Service	29 (23.0)	82 (16.3)
Professional	25 (19.3)	146 (29.0)
Sales	29 (22.7)	80 (15.8)
Other	44 (34.7)	190 (37.6)

in the family business, wives who were employed outside the family business, and non-employed wives. The 15 wives working in both the family business and for outside employers were not included in the analyses because of the difficulty of classification. Should they be grouped with "employed in family business" or "market employed?" Wives who held two jobs outside the family business (n=40) were combined with the 209 market employed.

Univariate and frequency analyses were performed to generate descriptive statistics. The General Linear Model's (GLM) multi-group comparison techniques were used to examine the differences among the three groups of wives (SAS Institute, 1989). The likelihood of wives' participation is estimated by logit analysis.

Results

Table 1 compares all family businesses in the subsample (n=505) with those businesses in which the wife is employed either full- or part-time in the firm (n=107).

Family firms where wives were employed have more household income, larger gross sales, and are slightly smaller (although not appreciably younger) than firms in which wives are not employed. Wives were more likely to be employed by service and sales businesses proportionally. This is understandable as professional businesses included legal and medical practices where it would be likely that only one spouse would hold a license to practice.

Of particular interest were wives who were working for the family business but who received no wages or share of the profits. Researchers at the Bureau of Labor Statistics report that the incidence of unpaid work in family business has diminished, beginning in the early 1950s. This outcome is in part due to a decline in family size and agricultural employment overall and the employment of rural women in wage and salary jobs (Bregger, 1996). Data on the number of hours worked per week and weeks worked per year were available for all wives in the sample and was cross checked to determine 1) if the wives who were full-time homemakers were spending any time working for the family firm and not being paid, 2) the number of hours wives were spending in market employment, and 3) the number of hours spent working in the family business. It was believed that the process of picking the subsample studied here (identifying the business through the household and then asking household members whether they performed any work for it) would help elicit more

Table 2

Comparison of the Wives: Employed in Family Business, Market Employed, and Non-Employed (Weighted)

Variables	Employed in family business (n=107)	Market employed (n=249)	Non-employed (n=135)
Continuous variables with means and standard deviations:			
Age[a,b]	44.58 (10.24)	40.58 (13.36)	46.15 (10.51)
Education[b]	13.52 (2.21)	13.82 (3.15)	13.15 (2.08)
Household size	3.42 (1.15)	3.46 (1.67)	3.43 (1.02)
Household income	124,082 (365757)	67,433 (289,757)	145,326 (342,096)
Size of business[b]	13.99 (54.0)	6.72 (35.73)	34.07 (111.13)
Gross sales ($)	3,975,201(37,599,630)	447,833 (3,024,279)	2,928,476 (11,118,306)
Duration of business[a,b]	13.85 (10.40)	9.78 (11.43)	17.91 (9.88)
Categorical variables with frequencies and percentages:			
Presence of children under 18	107 (100)	244 (97.8)	133 (98.5)
Self-rated health[b]			
poor/fair	13 (12.8)	17 (6.9)	28 (20.8)
good	41 (38.7)	95 (38.4)	47 (34.9)
excellent	52 (48.5)	136 (54.7)	60 (44.3)
Type of business			
service[b]	24 (23.0)	41 (18.2)	13 (9.7)
professional[a]	21 (19.3)	77 (31.0)	45 (33.3)
sales[b]	24 (23.0)	38 (15.2)	14 (10.1)
other	37 (34.7)	91 (31.0)	60 (44.2)
Establishment of business			
bought/invested	25 (23.3)	54 (21.8)	26 (19.4)
started[b]	73 (68.0)	180 (72.4)	81 (59.8)
inherited/given[b]	8 (7.7)	10 (4.0)	24 (18.1)

Note: [a] The employed in family business is significantly different from the market employed at .05 or better.
[b] The non-employed is significantly different from the family business employed and market employed.

unpaid family workers.

Table 2 compares wives employed in the family business, wives who were employed outside the family business, and non-employed wives on a variety of socio-demographic measures.

Non-employed wives were slightly older, had less education, and larger household income than either wives working in the family business or wives employed by others. They were also less likely to report their health status as excellent or good. Family businesses where the wife was not employed were both of longer duration (17.9 years) and larger (34 employees on average) than family firms where the wife worked in the business or was employed by others. Family businesses in which wives were employed had the largest gross sales ($3,975,201 in 1988). In addition, the type and method of establishing the business were different when the wife was non-employed. Wives of professional business owners were the least likely to be working in the family firm. If the business was service- or sales-related, wives more likely to work in it than if the business was manufacturing, contracting, construction, plumbing or agricultural.

Further, wives were more likely to be working in the business when it had been purchased or started by the husband; and less likely to be working in the business or employed by others when the business had been inherited or given. It stands to reason that wives would be more likely to be working in the business when it was just getting underway and dollars were tight than they would be when the business was mature.

In important ways, all wives, whether working directly in the business or not, are making major contributions. Wives are under heavy pressure to control the household budget and be willing to accept a comparatively low standard of living when the business is new (Rosenblatt, et al, 1985). Every cent saved by putting off desired purchases, repairing old clothing, buying food on sale and preparing it is a contribution to the business.

On average, wives' annual earnings were largest for women employed outside the family business ($14,005) but total household income was largest when wives were working in the family business ($124,082). However, median values indicate that wives working in both the family business and outside employment had higher earnings although their household income was the lowest. Wives who were both working in the family business and employed by others also made the largest direct contribution to family income, earning almost 20% of the household's funds. It should be pointed out that although a wife's employment increases her family's income, her paycheck is not equal to the same lump sum received without her working. It is reduced by her work-related expenses such as taxes, transportation, childcare, and clothing and by the cost of market goods for her home-produced outputs (Vickery, 1979). It should also be emphasized that wives who were employed by family firms were receiving less than market wages for the number of hours they were working.

An attempt was made to predict which wives would be the most likely to be working in the family business. In this analysis, illustrated in Table 3, socio-demographic characteristics of the wife, husband and business are entered into a logit model.

Husband's employment in another business was negatively associated with the likelihood of the wife's participation in the family business while husband's self-reported health status was significantly and negatively related at the <.01 level, although not in the expected direction. Wives of husbands who reported their health status was fair or poor were less likely to be working in the family business. The type of business was significantly related, with wives more likely to be employed in service and sales businesses. Size of the business, as measured by the number of employees, was negatively associated with wives' direct participation. The length of time the business had been operating was positively and significantly associated with wives' participation.

Table 3

Factors Associated with the Likelihood of Wife's Participation in Family Business (Weighted)

Variables Cooef.	Estimated	S. E.
Characteristics of wife:		
Age 0.011	0.013	
Education	0.015	0.056
Self-rated health		
poor/fair	-2.128	0.749
good -0.152	0.259	
(excellent)		
Market employed	-0.050	0.364
Characteristics of husband:		
Self-rated health		
poor/fair***	-2.128	0.749
good -0.152	0.259	
(excellent)		
Employed in other business	-0.245	0.388
Business Characteristics:		
Establishment of business		
bought/invested	0.383	0.456
started	0.492	0.429
(inherited/given)		
Type of business		
service***	1.083	0.323
professional	-0.382	0.320
sales***	0.934	0.934
(other)		
Size of business*	-0.004	0.002
Gross sales	1.25E-8	1.10E-8
Duration of business**0.027		0.013
Constant	-5.447	2.903
Log likelihood	-255.974	
Chi-square	511.94	

Note: * significant at .1 ** significant at .05 *** significant at .01

Conclusions

This paper explores the contributions wives make to economic well-being in business-owning families. An important limitation of the study is the exclusion of hours spent in housework so that a reservation wage could be calculated for non-employed wives. Further refinement of housework time would have allowed a more direct comparison between wives who were non-employed and wives who were working in the family business, working for others, or both. In any case, wives not directly employed by the business still contributed to the business through their work at home and by limiting household expenditures.

The majority of wives made their major contribution to family economic well-being through either market employment or working in the family business. Wives who combined working in the business with working for others had the greatest impact on their family's economic well-being, earning almost 20% of their household's annual income. The largest household incomes were found in families where the wives worked in the family business, but there the major source of income was asset holdings, not earnings. Wives working in the family business earned the lowest salaries, possibly indicating an attitude that reflects the undervaluing of members of one gender and overvaluing of members of the other by family business owners.

What is most interesting about the findings reported here is the variety of ways in which wives are contributing to family businesses. It was not a simple dichotomy of working in the business or not working in the business. Some wives were working in the business and for others and employed by the business a minority were working two jobs in addition to their home responsibilities to support the family and the business.

Too often, women have been an unacknowledged or undervalued resource in family businesses. The information presented here, which supplements a growing body of qualitative literature, indicates that women's contributions in business-owning families are both critical and substantial.

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Retirement Savings of Nonfarm Self-employed Workers: An Exploratory Study

Self-employment is increasing rapidly, especially among women, but there is little research on self-employed workers and retirement planning. A survey was developed and mailed to 250 self-employed workers who belonged to comparable associations. The largest amounts of annual savings were in stocks and business equity and the smallest amounts were in tax-advantaged plans. Participation in retirement planning was low. Respondents who were older, married, with higher income, and with more savings during the past year had larger total retirement savings.

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Introduction

About 1 of 11 workers in the United States was self-employed in 1994 (Bregger, 1996). The numbers of self-employed in the U.S. are expected to increase to 18 million by 1998, up from 11 million people in 1995 (West, 1995). A major difference between self-employed and wage and salary workers is in preparation for retirement. The self-employed must initiate their own retirement plans. The 1993 Current Population Survey (CPS) showed that few self-employed workers were covered by formal plans. "On the current primary job, the self-employed report retirement coverage only 15% of the rate of wage-and salary workers; however, with the addition of previous jobs, secondary jobs, and active IRAs, the ratio increases to 36%" (Woods, 1994, p. 14). Self-employed workers are usually excluded from pension studies (McGarry & Davenport, 1996). Hence, there is little research on self-employed workers and retirement planning.

Identification of self-employed workers is somewhat ambiguous and may lead to underestimation of the number of self-employed. The CPS defines the self-employed as sole proprietors and partners of unincorporated businesses (Haber, Lamas, & Lichtenstein, 1987). But, those who own a controlling interest in an incorporated business are included with wage and salary workers because they are employees of the businesses they operate. Also, when self-employment is reported as a secondary activity, the CPS excludes this from the count of self-employed workers.

In 1995, the self-employed were classified by occupation as follows: managerial and professional, 30.0%; technical, sales, and administrative support, 22.3%; precision production, craft, and repair, 15.4%; farming, forestry, and fishing, 14.8%; service occupations, 11.1%; and operators, fabricators, and laborers, 6.0% (U.S. Bureau of the Census, 1996, p. 402). In 1995, 15% and 85%, respectively, of self-employed workers were in farm and nonfarm industries (U.S. Bureau of the Census, 1996, p. 402).

Theoretical Framework

Entrepreneurship and human capital theories provide insight into the economic reasons for self-employment. Entrepreneurs innovate by introducing a new good, method or market, finding a new source of materials, or creating a new type of business organization (Schumpeter, 1934). Knight (1921) believed that effective entrepreneurship was a combination of self-confidence, low risk aversion and capital. Entrepreneurs are thought to have a strong belief that they control their own lives instead of being manipulated by the external environment. The belief is known as locus of control. The scale used to measure external versus internal locus of control (Rotter, 1966; 1976) has been used to predict who is likely to become an entrepreneur.

The notion of an entrepreneur as bold and imaginative may not fit all self-employed workers. Perhaps some identify more closely with human capital theory. It may be their stock of human capital, i.e., investment in education, skill development, and health, that encourages them to start a business (Becker, 1975). Casson (1982) suggests the following possibilities: (a) self-employment may be an alternative to unemployment, (b) control by self is preferred to control by others, or (c) part-time convenient work may be required.

Characteristics of Self-Employed Workers

Demographics

Younger workers are less likely to be self-employed because they lack skills and resources necessary to start a business (Bregger, 1996), and self-employment becomes increasingly common as one gets older. About a fourth of all employed persons 65 and older are self-employed. Some of this is likely to be a result of starting a second career after retirement.

Men are more likely to be self-employed than women. However, the proportion of women in self-employment has increased from 1 in 4 in 1975 to 1 in 3 in 1990 (Devine, 1994). On average, self-employed women tend to be older, with more education, more likely to be married, and to be white than women who work for wages and salaries.

Higher levels of education increase the probability of being self-employed because education increases a person's ability to provide a service that is wanted by others and education can increase managerial skill (Borjas, 1986).

A spouse's income or assets can be a source of capital, the spouse can work in the business for below-market wages, and if the spouse has a wage or salary job, that income can provide a buffer for the fluctuating income of self-employment (Long, 1982).

Although self-employment and small business have been a vehicle for various ethnic, religious, and racial groups to achieve upward economic and social mobility, the rate of self-employment for minorities is below the overall rate (Aronson, 1991).

Misreporting, overstatement, and understatement of earnings can occur in self-employment (Balkin, 1989). Income may be under reported to avoid taxation or regulation or because of lack of formal records. Income may be overstated because of the tendency to work longer hours and more weeks per year, earnings include an implicit return to capital, and the need to pay fringe benefits out of earnings. Self-employed workers can use a car for business travel or they may have a home office, so earnings may be understated.

Fifty to 60% of self-employed businesses fail during the first two or three years (Evans & Leighton, 1989). However, lack of information about self-employment affects what is known about the stability of self-employment (Aronson, 1991). Many small businesses use personal or informal sources of credit that are not recorded in databases such as Dun and Bradstreet that provide credit ratings.

Locus of Control

Some believe that self-employed workers exhibit greater internal locus of control, i.e., persons with internal locus of control believe that outcomes are a consequence of their own behavior. Those who believe that a person's actions do not have much influence on events have an external locus of control. Persons holding internal control expectancies are usually more cautious and calculating about their choices and more attentive to information relevant to decision making (Dessart & Kuylen, 1986; Lefcourt, 1976; Rodin, 1990).

Risk Taking

Although entrepreneurs are popularly believed to be risk-takers, Swayne and Tucker (1973) concluded that they are between risk neutral and risk averse. Palmer (1971) identified entrepreneurs as individuals who correctly interpret the risk of the situation and then determine policies which minimize the risks involved.

Retirement Planning

Health and finances are usually the top concerns of persons making plans for retirement. A study on confidence in financial preparation for retirement showed only a few differences in the beliefs of non-retired and retired persons (DeVaney, 1995). Confidence for both groups depended upon: the belief that they could meet basic expenses, maintain good health, and the presence of a pension. In addition, the non-retired were confident if they had started saving, had a supplemental retirement annuity, and if they believed they could find a comparable job if needed.

Methodology

A survey instrument was developed, pilot tested, and revised. The final survey contained 65 questions on job characteristics, retirement planning, savings and investments for retirement, risk-taking, locus of control, and demographics. Questions on locus of control were taken from Bugaighis and Schumm (1983) and Schumm, Coulson, Jurich, & Bollman (1990). Risk-taking was measured by questions developed from several articles on risk tolerance. Although the need for a scale to measure risk-taking is often mentioned, a non-proprietary scale to measure risk was not located.

To develop the sample, three associations in suburban locations in three states (eastern, north central, and south central) who met the criteria of being self-employed, nonfarm, small business owners were contacted. Permission was received to contact members by mail. The Dillman (1978) method was followed in mailing the survey instrument. Data were collected from July through September of 1996. The overall response rate was 41.6% (104/250).

The dependent variable was the total household retirement savings. Independent variables included: age, marital status, education, income, savings in the past year intended for retirement, job tenure, concern about having enough income in retirement, and indices for retirement planning and locus of control. The index for retirement planning included: thinking about retirement, discussing retirement with spouse or a close friend, attending programs or reading articles or books about retirement, using computer programs to learn about retirement planning, consulting professionals, and belief about what had been done compared to other people of the same age.

Responses for income, annual retirement savings, and total retirement savings were collected by category to overcome reluctance to provide discrete amounts and the possibility of under reporting. Savings for retirement during the past year was measured by asking about the amount saved in: (1) savings accounts, bonds, or certificates of deposit, (2) Individual Retirement Accounts (IRAs), (3) Keogh plans, (4) Simplified Employee Pension plans, (5) Employee Stock Ownership Plans or profit sharing plans, (6) 401(k) or 403(b) thrift or savings plans or supplemental retirement annuities, (7) mutual funds, (8) stocks, or (9) equity in their business. For each category, a value of 0 equaled no savings during the past year, 1 equaled less than $1,000, 2 equaled savings between $1,000 and $2,000, and 3 equaled more than $2,000.

Two sets of analyses were conducted to answer the research questions: (1) what are the characteristics of self-employed workers, and (2) what factors affect retirement savings of the self employed. Ordinary Least Squares regression was used to analyze the second research question.

Table 1
Coding of Variables

Variable	Coding Scheme
Dependent variable:	
Retirement savings	Continuous (1 to 6)
	1 = Less than $10,000
	2 = $10,001 to $20,000
	3 = $20,001 to $50,000
	4 = $50,001 to $100,000
	5 = $100,001 to $250,000
	6 = More than $250,000
Independent variables:	
Age	Continuous
Married	1 = married
	0 = otherwise
Education	1 = BS or advanced
	0 = otherwise
Low income	1 = Less than $50,000
	0 = otherwise
Middle income	1 = $50,001-$75,000
	0 = otherwise
High income	1 = More than $75,000
	0 = otherwise
Savings past year	Continuous
	(Sum for 9 types of savings)
	0 = No savings in the past year
	1 = Less than $1,000
	2 = Between $1,000 and $2,000
	3 = More than $2,000
Job tenure < 4 years	1 = yes
	0 = no
Concern for ret. income	1 = yes
	0 = no
Retirement plan index	Continuous (10 to 35)
Locus of control index	Continuous (16 to 34)

Findings

Sample Characteristics

Characteristics of the sample are shown in Table 2. A typical respondent was 45 years old, married, and had a college education. Sixty percent had more than $50,000 annual household income.

The amount of savings during the past year for retirement in a specific option (from least to most) was: Keogh plans; SEPs; ESOPs; 401(k) or 403(b); IRAs; mutual funds; savings accounts, bonds or CDs; equity in own business; or stocks.

One-third of the sample had been self-employed for 3 years or less. Forty-four percent expressed moderate concern or a lot of concern about having enough retirement income.

The questions on planning for retirement were scored from 1 to 5, Not at all to A lot. The responses were summed to form an index. The range for the retirement planning index was 10 to 35 (M = 20.04, SD = 6.76). The Alpha reliability for the index was .90 (Cronbach, 1951).

Responses for locus of control were coded from 1 to 5, Strongly disagree to Strongly agree. The four questions on external locus of control were reverse coded and an index was developed. The range for the index was 16 to 34 with a mean of 26.13 (SD = 3.78). The Alpha reliability for the scale was .74 (Cronbach, 1951).

Other Characteristics

Sixty percent said their business was a service. The businesses tended to be small. Twenty-three percent were sole proprietors, and 21.4% had one employee. The average number of hours worked per week was 40.5 hours (SD = 14.8). The respondents had been in their current job an average of 8.5 years (range of 1 to 42 years), but one-third had been in business for 3 years or less .

Respondents expected to retire at age 63 1/2 and indicated that retirement income would be needed for an average of 22.5 years. About half (48%) expected to need between 60 and 80% of current income for retirement.

The five questions on risk-taking were scored from 1 to 5, Strongly disagree to Strongly agree. Overall, respondents showed a moderate to high level of agreement in taking risks. An index was developed for risk taking, but the Alpha reliability for the index was only .40 (Cronbach, 1951). Hence, risk-taking was not used as an independent variable in the analysis.

Total Retirement Savings

Respondents were most likely to have total retirement savings between $50,000 and $100,000. This was the dependent variable for the analysis. The regression model was significant at $p < 0.0001$. R squared for the model was 60.8% meaning that about 61 percent of the variance was being explained by the independent variables. The results of the regression are shown in Table 3.

Self-employed workers who were older and married had higher amounts of retirement savings. The finding for age is consistent with the life-cycle hypothesis of savings (Ando & Modigliani, 1963) which suggests that older persons are more likely to have a relatively higher level of savings. The finding for marital status was consistent with research by Long (1982) who stated that having a spouse can provide resources of income, capital or labor for the self-employed worker.

Table 2
Description of the Sample (N = 104)

Variable	M (SD)	N	Percentage
Independent Variables:			
Age	44.60 (9.8)		
Married		76	73.0%
Not married		28	27.0%
BS or advanced		70	67.3%
High school or less		34	32.7%
Low income (less than 50,000)		41	39.4%
Middle income (50,000-75,000)		25	24.0%
High income (more than 75,000)		38	36.5%
Savings past yr	8.45 (6.04)		
0 to 24 (No savings to more than $18,000)			
Sav acct, CD	1.27 (1.25)		
IRAs	1.17 (1.27)		
Keogh plans	0.31 (0.74)		
SEPs	0.40 (0.89)		
ESOPs	0.52 (0.96)		
401(k)/403(b)	1.13 (1.31)		
Mutual funds	1.22 (1.31)		
Stocks	1.54 (1.33)		
Equity /bus	1.28 (1.34)		
Job tenure < 4 years		36	34.6%
Job tenure => 4 years		68	63.4%
Little concern for ret. income		58	55.8%
A lot or moderate concern		46	44.2%
Retire planning	20.04 (6.76)		
Locus of control	26.13 (3.78)		
Other Characteristics:			
No. dependents	1.2 (1.4)		
Hours/week	40.5 (14.8)		
Weeks/year	49.1 (3.6)		
Years/job	8.5 (7.7)		
Expect ret. age	63.5 (9.3)		
Yrs/ret. income	22.5 (8.2)		
Risk-taking:			
Preserve assets	3.38 (1.02)		
Safe invest	3.13 (1.04)		
Risk/return	3.45 (0.92)		
Tie up for return	3.86 (0.76)		
Check invest	3.72 (0.81)		
Accept changes	3.78 (0.71)		

Compared to self-employed workers without a college degree, graduates and those with an advanced education were more likely to have larger amounts of savings for retirement. This appears to be consistent with human capital theory which suggests that people with higher education will plan for the future and have more retirement savings. Compared to the upper income group, those who had low or middle incomes had less total retirement savings. Those who saved more during the year were more likely to have higher total retirement savings.

There was a positive effect for retirement planning. About half were giving retirement a lot or a moderate amount of thought which probably meant that they were setting aside money in various forms of savings or investments with the intention of using the funds for retirement.

A slight positive effect was found for locus of control suggesting that people who have higher levels of locus of control will have more retirement savings.

Table 3

Total Retirement Savings of Self-employed Workers

Variable	B	SE	p
Age	0.07	0.01	0.0001***
Married	0.47	0.31	0.0001***
BS or advanced	0.19	0.27	0.0068**
Low income	-1.31	0.33	0.0002***
Middle income	-0.64	0.33	0.0021**
Savings/past yr	0.04	0.03	0.0001***
Job < 4 years	0.33	0.27	0.2303
Concern ret. inc.	-0.37	0.25	0.1230
Ret. planning	0.07	0.03	0.0146*
Locus of control	0.03	0.04	0.0358*

*p <0.05 ** p < 0.01 *** p < 0.001

Discussion and Implications

The contribution of the study was the development of a survey designed to capture the unique characteristics of self-employed workers and preparation for retirement. The high cost of starting businesses may deplete their savings and it may be difficult to save for retirement (West, 1995). The high rate of business failure could leave many self-employed workers dependent on social support in their later years. Although the self-employed tend to be married and can use income and capital from a spouse, that may not be sufficient to provide for retirement.

The survey revealed limited use of tax advantaged savings. This could mean that many of the self-employed are unaware of the tax advantages of these types of pension plans or they might not use these plans because these options tie up funds and frequently do not allow for loans. Instead, they may invest in CDs, savings accounts, mutual funds or stocks because there is no penalty for withdrawal and they feel that they have control over the funds.

There was limited use of retirement programs, financial advisers, and computer programs on retirement planning. It should be highly advantageous for self-employed associations to sponsor programs on retirement planning. Consumer educators are urged to contact associations of the self-employed and inquire about their interest in retirement planning. Educators may need to develop programs targeted to their special needs and interests.

Future research should attempt to compare retirement planning of these workers with that of wage and salary workers. That would allow for comparison of locus of control and risk-taking. With a larger sample, there might be a stronger effect for locus of control. Further study is needed to understand how the self-employed view the amount of control they exert relative to their businesses. A larger sample would allow for more analysis of job-tenure, racial and ethic backgrounds, and gender differences.

When self-employment activities are placed in the context of a married couple, it would be helpful to assess the way the couple uses income from those activities. Is self-employment income used for savings, for consumption, or is it invested into the business? How do retirement savings differ for those who consider self-employment as a secondary activity compared to those who consider self-employment as a primary activity should be included in future research.

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Consumer Interests Annual *Volume 43, 1997*

Consumption Patterns of Asian-Canadians and Canadian-Born

The Canadian 1990 Survey of Family Expenditures is used to examine spending pattern differences between Asian-Canadians and the Canadian-born residing in Canada. Using Tobit analysis to correct for limited dependent variables and to control for differences in household characteristics, significant differences were found for expenditures on household operations, transportation, personal care, recreation, tobacco and alcohol, miscellaneous, and gifts and contributions. Transportation, recreation, and gifts and contributions were luxury goods for both ethnic groups.

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Introduction

Canada is a country of immigrants. In 1991, almost 16 % of the total population in Canada reported being foreign born and 86.4% of Canadian residents reported an ethnic origin other than Canadian (Statesman's Year Book, 1992). Since 1971, Canada has had an official multicultural policy that has encouraged maintenance of diverse and unique ethnic communities within Canadian society (Department of Secretary of State of Canada, 1988).

Asians comprise a major portion of Canadian immigrants (Lee, 1995). In 1981, nearly 40% of Canada's immigrants were Asian. In 1991, the proportion of Asian immigrants was 53% (Canada Year Book, 1994). Examining the spending patterns of these Asian-Canadians is of interest for several reasons: (1) previous studies of the influence of ethnicity on consumer preferences and budget allocation have generally focused on Blacks and Hispanics rather than Asians, (2) Asians are now 5.1% of the Canadian population , (Canada Year Book, 1994) up from 1% in 1971(Canada Year Book, 1980) with further growth expected, (3) the Canadian multicultural policy may help preserve the distinct values, lifestyles, religious practices, tastes and preferences of Asian immigrants.

The purpose of this paper is to explore differences in the spending patterns of Asian-Canadians (Asians) and the Canadian-born (Canadians). Results of this study can be useful for theory development, marketing, and public policy.

Review of Literature

United States data was used in the few existing studies of the effect of ethnicity on consumer spending patterns. Using the 1972-1973 Consumer Expenditure Survey and multiple regression, Ketkar and Cho (1982) and Ketkar and Ketkar (1987) found that white families spent more on food-away from home, health care, recreation, auto insurance, radios and televisions; less on clothing, home furnishings and equipment, and household operation compared with non-white households.

Wagner and Soberon-Ferrer (1990) used the 1980-1981 Consumer Expenditure Survey to study the impact of ethnicity on expenditures for food at home, food away from home, and clothing. Their multivariate analysis indicated that, all else equal, Blacks spent more than other households on clothing and less on food away from home; whereas Hispanics spent more on food at home.

Fan (1994) combined data from the 1980-1990 Consumer Expenditure Survey, the 1980-1990 Consumer Price Index, and the 1990 ACCRA Cost of Living Index to examine the differences in household budget allocation patterns between Asian-American households and Black, Hispanic, and white ethnic groups. Asian-American households had significantly different budget allocation patterns compared with the other three ethnic groups. Asian-American households allocated less of their budget to fuel and utilities compared to the three other ethnic groups. Compared to white households, Asian-Americans allocated a relatively larger budget share to shelter and education. Compared to Black households, Asian-American households allocated a larger budget share to food at and away from home,-and shelter, but less to apparel. Compared to Hispanic households, Asian-American households allocated a smaller budget share to food at home, but a larger share to food away from home.

Theory and Method

Theory

The theoretical basis of this study is

neoclassical consumer theory. Consumer expenditure is deemed to be a function of economic resources as well as consumer tastes and preferences (Bryant, 1990). A zero level of expenditure for any given consumption category might arise if the survey period is too short for a purchase to be made, or if the consumer would not purchase the item under any circumstances or if a corner solution is present such that, given a change in relative income or price, a consumer would purchase the item. Since the survey period is not short and the analysis in this study focuses on broad expenditure categories, the assumption is made that a category of commodities is permanently in the consumer's utility function. Thus, zero expenditures indicate a corner solution. Tobit analysis is appropriate in such a case.

Data

Data for this study are from the Canadian 1990 Survey of Family Expenditures collected for the Family Expenditure Surveys Section, Household Surveys Division, Statistics Canada (Statistics Canada, 1991). This extensive national survey obtained information on private households (a person or persons living in one dwelling unit) in the 17 metropolitan areas of Canada. In most cases, households of two or more are occupied by those related by blood, marriage or adoption.

Ethnic Identity

In this data set, ethnic groups were identified according to country of birth. This study focused on married couple households where both husband and wife reported the same ethnicity. There were 1,950 families whose household head and spouse were Canadian-born; 116 families reported Asian origins. Fifty-six Asian families came from "China and South East Asia" which included: China, Hong Kong, Japan, Korea, Taiwan, and Vietnam. Sixty Asian families were from "Other Asia," which included: Bangladesh, India, Pakistan, Punjab, Sri Lanka, Cambodia, Indonesia, Malaya, Malaysia, New Zealand, Philippines, Singapore, Thailand, and Australia.

Statistical method

Tobit analysis was used to correct for the presence of limited dependent variables. Given the potential bias that may arise from having a large number of zeros present in a given expenditure category, ordinary least-squares is inappropriate (Madalla, 1983).

The empirical model used in this study can be expressed as follows:

$$C_i = \alpha + \beta_1 X + \beta_2 A + \beta_3 S + \beta_4 R_1 + \beta_5 R_2 + \beta_6 R_3 + \beta_7 R_4 + \beta_8 E_1 + \beta_9 E_2 + \beta_{10} E_3 + \beta_{11} E_4 + \beta_{12} O_1 + \beta_{13} O_2 + \mu \quad (1)$$

where C_i is the annual expenditure on the ith consumption category, α is a constant, β_1 to β_{13} unknown coefficients, X is total annual expenditure, A is age of the reference person, S is household size indicated by the number of person weeks (number of weeks a person present in household), R_1 is Atlantic and Quebec region, R_2 is Manitoba and Saskatchewan R_3 is Alberta, R_4 is British Columbia (Ontario is the omitted category, E_1 is a reference person with less than 9 years of elementary education, E_2 is a reference person with some post-secondary education, E_3 is a reference person with post-secondary certificate or diploma, E_4 is a reference person with a university degree (reference person with some or completed secondary education is the omitted category), O_1 is a reference person with a white collar occupation, O_2 is a reference person with a blue collar occupation (reference person who is a homemaker is the omitted category), and μ is an error term.

This equation can be summarized as the following Tobit model:

$$\begin{aligned} C_i &= \alpha + X\beta + \mu && \text{if } \alpha + X\beta + \mu > 0 \\ C_i &= 0 && \text{if } \alpha + X\beta + \mu \leq 0 \qquad (2) \end{aligned}$$

where X is a vector of independent variables, $\beta$is a vector of unknown coefficients, and C_i and μ are defined as previously.

The marginal propensity to consume derived from the model for all cases is:

$$\frac{\partial E(C_i^*)}{\partial C} = F(Z) \left(\frac{\partial E(C_i^*)}{\partial C} \right) + EC^* \left(\frac{\partial E(Z)}{\partial C} \right) \quad (3)$$

where $E(C_i)$ is the expected expenditure on a certain category of all observations, $E(C_i^*)$ is the expected expenditure on a certain category for observations with expenditures greater than zero, and F(Z) is the probability of having expenditures greater than zero for all cases. The marginal propensity to consume is the change in expenditure for a given commodity per unit change in total expenditures, *ceteris paribus*.

The marginal propensity to consume for cases above the limit is $\frac{\partial E(C_i^*)}{\partial C}$ and $\frac{\partial F(Z)}{\partial C}$ is the cumulative probability of being above the limit associated with total expenditure (Madalla 1983, pp. 149-60; McDonald and Moffitt, 1980).

To derive income elasticities, the left-hand side of equation (3) is multiplied by $\bar{X}/E(C_i)$ where $\bar{X}$

is the mean of total expenditures for the sample (Kinsey, 1984). Elasticity indicates the percentage change in expenditure on a specific category, given a 1% change in total expenditures, other things being equal.

Dependent variables

The expenditure categories used as dependent variables are: food at home, food away from home, shelter, household operations, household furnishings and equipment, clothing, transportation, health care, personal care, recreation, education and reading, tobacco and alcoholic beverages, miscellaneous, and gifts and contributions. Specific components of each expenditure category used in this study are listed in the documentation for the 1990 Survey of Family Expenditures Public Use Microdata File (Statistics Canada, 1991).

Independent Variables

The independent variables include annual expenditures, age of respondent, family size, region of residence, occupation of respondent, and education level of respondent.

According to the permanent income hypothesis, the level of permanent consumption realized by an individual or a family depends on permanent income. In the short run, however, families have more control over expenditures than over income. Therefore, total expenditures are used in this study as a proxy for income (Prais and Houthakker, 1971).

Previous studies of expenditure patterns indicate the age of the head of a household directly influences expenditure patterns and that specific purchases occur in particular time periods of life (Chen and Chu, 1982). Age of respondent was measured as a continuous variable.

Since climate and cultural differences in each region of the country influence expenditure patterns (Ketkar and Cho, 1982), region of residence is used to capture differences of taste and preferences in consumption that might influence expenditures across families in this study. Dummy variables were used to classify region: Atlantic Provinces (Newfoundland, Prince Edward Island, Nova Scotia and New Brunswick), Quebec, Ontario, Manitoba and Saskatchewan, Alberta, and British Columbia (Ontario was the omitted category).

Both occupation and education of respondent may influence consumer taste and preference for types and levels of expenditures chosen. Occupation of respondent was measured as three dummy variables: white collar, blue collar and homemaker (the omitted category).

Level of education was divided into four categories: less than 9 years of elementary education, some post-secondary education, post-secondary education completed and university degree earned. Higher levels of education can alter valuation of time allocation and consequently impact expenditures for time-related goods and services (Ketkar and Cho, 1982; Ketkar and Ketkar, 1987).

Characteristics of the sample

Data describing the characteristics of the sample are shown in Table 1. Average age of the reference person was 45 years for the Asians, 44 years for the Canadians. Family size as represented by number of weeks that a person was a part of the family was higher for Asian families at 209 weeks (approximately 4 persons in the family during the year) compared to 161 weeks (approximately 3 persons per family per year) for Canadian families.

Differences in region of residence can be seen. Over three-quarters of the Asian families resided in Ontario, British Columbia, and Atlantic and Quebec (31.5%, 23.3% and 22.5%, respectively). Over two-thirds of Canadian families lived in Ontario (30.9%) and Atlantic and Quebec (38.4%). Relatively fewer Canadian families lived in British Columbia (11.8%) and Alberta (9.8%) compared to Asian families (23.3% and 18.9%, respectively).

Interesting differences were observed in education level of the two ethnic groups. A greater percentage of Asians compared to Canadians had less than 9 years of elementary education (11.3% versus 9.6%). A larger percentage of Canadians had completed secondary education (42.3% compared to 34.6%) or some post secondary education (9.6% compared to 5.3%). The percentages who acquired a post-secondary certificate or diploma was similar for both Asians (19.5%) and Canadians (22.8%). But, almost 30% of Asians had a university degree, nearly two times the percentage of Canadians with a similar degree. Thus, compared to Canadians, Asians had a higher percentage with both very low and very high levels of education.

Relatively more Asians than Canadians were employed in white collar occupations (57.8% and 52.1%, respectively). Blue collar employment was very similar for both ethnic groups at 31.0% for Asians and 32.1% for Canadians. Relatively more Canadians reported being not employed compared to Asians (15.8% and 11.2%, respectively).

Table 1

Descriptive Statistics for Selected Sociodemographic Characteristics

Household characteristics	Asian (n=116)	Canadian (n=1950)
Age of ref. person	45.4	43.9
Number of person weeks	209	161
	Percent	
Region of residence		
Atlantic and Quebec	22.5	38.4
Ontario	31.5	30.9
Manitoba & Saskatchewan	3.8	9.1
Alberta	18.9	9.8
British Columbia	23.3	11.8
Education of ref. person		
< 9 years of elementary	11.3	9.6
secondary ed.	34.6	42.3
Some post-secondary ed.	5.3	9.6
Post-secondary certif.	19.5	22.8
University degree	29.3	15.7
Occupation of ref. person		
White collar	57.8	52.1
Blue collar	31.0	32.1
Not employed	11.2	15.8

Table 2

Average Expenditure Levels and Average Budget Shares of Household Expenditures by Ethnic Groups

	Average Expenditure Level (Canadian $)		Average Budget Share (percentage)	
	Asians	Can.	Asians	Can.
Total expenditures	39,131	39,118		
Food at home	5606	4785	16.2	13.8
Food away	1794	1808	4.2	4.4
Shelter	8413	8395	23.8	22.7
Household op.	2023	2258	5.2	5.9
Furnish. & equip.	1495	1748	4.0	4.3
Clothing	3182	2977	7.8	7.2
Transportation	7561	6603	17.3	15.8
Health care	1052	904	2.7	2.5
Personal care	892	1021	2.4	2.7
Recreation	2083	2976	4.9	7.0
Reading & educ.	1062	694	2.6	1.7
Tobacco & alcohol	485	1619	1.4	4.4
Misc.	985	1551	2.6	3.9
Gifts & contrib.	2501	1779	4.6	3.8

Findings and Discussion

Expenditure levels

Total annual expenditures, average expenditure levels, and average budget shares are reported in Table 2. Total annual expenditures were almost the same for both ethnic groups at $39,131 (Canadian dollars) for Asians and $39,118 for Canadians. However, as seen in Table 2, the dollars allocated to each expenditure category differed for each ethnic group.

To ascertain whether the differences in expenditure levels were statistically significant, a dummy variable for Canadian born was entered into a Tobit equation for each expenditure category. When differences in age, household size, region of residence, education and occupation were controlled, a significant difference between ethnic groups was found at the .001 level for the following expenditure categories: transportation, personal care, recreation, tobacco and alcohol and miscellaneous. Significant differences were found at the .01 level for household operation and at the .05 level for gifts and contributions. For several of the remaining categories, differences in dollar expenditure levels between the two ethnic groups was above $100 (Canadian). However, after controlling for differences in household characteristics, no significant differences between ethnic groups were found for food at home, food away from home, shelter, furnishings and equipment, clothing, health care, and reading and education.

Income elasticities

Income elasticities for the 14 expenditure categories are shown in Table 3. Those categories with income elasticities less than one are generally called necessities. Luxury goods have income elasticities greater than one (Bryant, 1990). For both ethnic groups, food at home, shelter, household operations, clothing, health care, personal care, reading and education, tobacco and alcohol, and miscellaneous expenditures are considered necessities. Food away from home and furnishings and equipment are luxury goods for Asian families, but necessities for Canadian families. Transportation, recreation, and gifts and contributions are luxury goods for both ethnic groups.

Table 3
Income Elasticities for Expenditure Categories by Ethnic Group

	Asians	Canadians
Food at home	0.219	0.168
Food away	1.039	0.814
Shelter	0.440	0.344
Household op.	0.843	0.539
Furnishings & equip.	1.036	0.889
Clothing	0.908	0.957
Transportation	1.106	1.100
Health care	0.683	0.503
Personal care	0.381	0.555
Recreation	1.342	1.240
Reading & ed.	0.452	0.729
Tobacco & alcohol	0.637	0.256
Misc.	0.633	0.798
Gifts & contributions	1.810	4.732

Conclusion and Implications

Study results indicate significant spending pattern differences between Asian and Canadian families for some, but not all, expenditure categories. Controlling for differences in household characteristics, significant differences in spending (at or above the .05 level) between the two ethnic groups was found for household operations, transportation, personal care, recreation, tobacco and alcohol, miscellaneous, and gifts and contributions. No significant differences were found for food at home, food away from home, shelter, furnishings, clothing, health care, and reading and education.

An implication of this research for theory development is that ethnicity can be a significant factor shaping consumer tastes and preferences. The differences found between Asian and Canadian families suggests it is important to consider a wider range of ethnicity than the typical white/nonwhite comparison.

For both marketers and public policy makers, the results of this study indicate that Asian and Canadian consumers do not have significantly different levels of spending for goods such as food at home, shelter, clothing, or health care -- items that are necessities for both groups. However, significant differences are found for items such as transportation, recreation, and gifts and contributions. These items are luxury goods for both groups. This result suggests that ethnicity may play a greater role in affecting consumer tastes and preferences for discretionary spending versus spending for basic items. Thus, marketers may benefit from taking ethnic differences into account when marketing "non-basic" items such as recreational services. Public policy makers, on the other hand, may find ethnicity relatively less important than other factors when examining the need for income supplements to purchase basic items. And, while the spending patterns of Asian families residing in Canada do not reflect complete assimilation, clearly, for the two ethnic groups considered in this study, Canada's "multicultural" policy has not resulted in spending pattern differences for every spending category.

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Consumer Interests Annual *Volume 43, 1997*

Chinese Adolescent Consumer Socialization: A Study Of Chinese Urban Adolescents' Involvement In Family Purchasing Activities

A survey of 429 Chinese students in Beijing investigates how family type, family structure, American television, economic development, self-esteem, personal values and personal financial resources affect Chinese adolescents involvement in family purchasing. The variables predicting the Chinese urban adolescents' family purchasing involvement were found to be single-child family, concept-oriented family, self-esteem, and personal financial resources. The concept-oriented family also had a significant impact on adolescents' identification with Western values.

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Introduction

Consumer socialization studies contribute to a better understanding of family consumption behaviors, intergenerational influences, and the impact of social trends on consumer behaviors (Ward, 1974; Moschis, 1979; 1985; 1987; Belch et al., 1985; Foxman et al.; 1986; 1989; Carlson et al., 1986; 1994; and Beatty et al., 1994). Since much of consumer socialization takes place within the family (Hafstrom, Chae & Chung, 1992), family plays an important role in shaping children's consumption behaviors.

Previous consumer socialization studies found family communication patterns suggest two major types of families: one stresses deference to parental authority, and avoidance of controversy (social-oriented family). The other encourages children to express ideas openly, to analyze all sides of an issue, and to be able to challenge the views of others (concept-oriented family) (Chaffee, McLeod, & Wackman, 1971; McLeod & O'Keefe, 1972; Moschis, 1985; Foxman et al, 1989). These studies have used Western families. Studies of how family communication patterns and family type influence consumer learning among non-western consumers are rarely found in the literature. The study of how internal factors, influence consumer learning and involvement in family purchasing have also been neglected.

This study investigates how family type, family structure, and personal characteristics affect Chinese urban adolescents in their consumer socialization process. The study focuses on Chinese urban adolescents' consumption involvement. This study integrates social learning theory, social cognitive learning theory and economic development to conceptualize Chinese adolescent consumer socialization variables.

Theoretical Framework

Social cognitive theory (Bandura, 1986; 1994) helps explain how human behaviors are learned through an interaction of personal and environmental factors. It emphasizes both social origins and cognitive development.

Human behavior can be observed through an analysis of the interaction between internal and external factors. Consumer behavior can be observed through an analysis of influences of family type, family structure, self-esteem, personal financial resources, and identification with Western values. Social cognitive theory also helps explain why people learn consumer values and behaviors from their parents. Family communication patterns or family type play a crucial role in shaping adolescents' consumer values and consumer behavior. If parents encourage their children to express their opinions openly and view all sides of issues, children are more likely to get involved in family purchasing decisions. If parents emphasize deference and conformity, children are less likely to get involved in family decisions. According to social cognitive theory, adolescents can learn consumer values and behaviors from television. Because television produces models for viewers. Through observational learning, viewers receive vicarious reinforcement.

Social exchange theory explains the relationship between parents and children in terms of consumer socialization. When children have the resources that the parents depend on, the children are more likely to have power. When an adolescent is the only child, parents are more likely to give higher status to him/her. As a result, the adolescent is more likely to have more power in the family decision-making.

Since 1979 when the Chinese economic reform started, Chinese consumer behavior changed. Before the reform, China had a central-planning economy. Production and consumption activities of consumer goods were controlled by the government. The concepts of "consumer" and "consumption" were vague.

The development of independent business in China helps change Chinese people's consumption values and behaviors. It provides consumers with more information about goods and services; it also provides more consumer goods and services. Today, the mass media organizations partially support themselves rather than being fully funded by the government. To get financial resources and to attract audiences/readers, advertisements and consumption themes are being introduced. In the meantime, American television and movies have penetrated the Chinese market. This media is expected to influence Chinese consumer values and behaviors.

The economic development perspective helps explain how the market economy affects consumer values and behaviors. Tse, Belk, & Zhou, (1989) showed that there is a correlation between economic growth and pursuit of hedonistic values.

Hypotheses

Family Characteristics and Involvement

Family structure. This concept is conceptually defined as the distribution of resources and the opportunity to gain the resources within the family. A single-child will have more resources than those others. According to social exchange theory, the more resources one has, the more power one will gain. Therefore:

H1: The adolescents who are from single-child families are more likely to be involved in the family purchasing activities than those who are not.

Family type. In the social-oriented family, children are taught to respect their parents and authorities. Traditional values are emphasized. Children are encouraged not to criticize other's opinions.

In concept-oriented families, however, expressing opinions openly is stressed. Children are encouraged to question, to see all sides of an issue, argue for the truth and to be critical. Therefore:

H2: The adolescents who are from concept-oriented families are more likely to be involved in family purchasing activities than those who are not.

H3: The adolescents who are from concept-oriented families are more likely to identify with Western values than those who are not.

H4: The adolescents who are from social-oriented families are less likely to be involved in family purchasing activities than those who are not.

H5: The adolescents who are from social-oriented families are less likely to identify with Western values than those who are not

Personal Characteristics and Involvement

Identification with Western values. Consumer motivation comes from their perception of getting reward or avoiding punishment. Under the current economic reform, Chinese adolescents may perceive the values of freedom, competition and individualism as being very important. Chinese adolescents who identify with Western values will express their motivation to participate in family purchasing decisions, to be independent and to be ambitious. Therefore:

H6: The adolescents who identify with Western values are more likely to be involved in family purchasing activities than those who do not.

Self-esteem. Self-esteem refers to people's perceptions of themselves p. Self-esteem is both cause and consequence of social interaction. For instance, self-esteem can help actors to perform effectively. It can also be enhanced through social interaction. Self-esteem carries motivational properties, Gecas (1986). People's self-esteem can motivate them to "conceive of themselves as efficacious and consequential, and to experience themselves as meaningful and real. Therefore:

H7: The adolescents who have high self-esteem are more likely to be involved in family purchasing activities than those who do not.

Personal financial resources. The resources are defined as money which adolescents earn after school. According to social exchange theory, the more resources one has that are valued by others, the more power one will gain. This study proposes that the more money one makes, the more power one has. Therefore:

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H8: The adolescents who have more financial resources are more likely to be involved in family purchasing activities than those who do not.

Exposure to American Television

According to Bandura's (1986) social learning theory, people pick up values and behaviors through observational learning or modeling. American television programs convey Western affluent lifestyles and consumer values and they likely play an important socializing role:

H9: The adolescents who have been exposed to American television programs are more likely to identify with Western values than those who have not.

Methodology

The survey was conducted in Beijing, China in 1994. Predictors in the study include family characteristics, adolescent characteristics, economic development, and American mass media influence. Demographic variables such as gender, age, and education were also measured. The subjects were chosen randomly from four high schools. The sampling frame was a list of high schools in Beijing. Random procedures were also used to choose classes of students within each school. Grade levels of the subjects are from nine to twelve. These grade levels were chosen because these adolescents are in a formative stage of development and are "undergoing an identity crisis period" (Erikson, 1968). They are undergoing a period of experimentation about themselves, which can be viewed as part of the process of identity formation. The sample should represent major characteristics of urban Chinese adolescents because many urban areas in China are similar to Beijing.

The questionnaires were administered to classes by the researcher with the assistance from teachers. Parents were informed about the survey and the students volunteered to answer the questions. They were told to feel free to omit questions. They could withdraw at any time if they felt uncomfortable. The students filled out the questionnaires in their classrooms during one-class period (45 minutes). A brief introduction about the survey procedure was given to the subjects before they started answering the questions. A debriefing followed immediately after the survey to explain the project. Of the 450 questionnaires distributed, 429 were completed and useable, including 157 junior high and 272 senior high respondents. The average age was 15.6. 49.4% were male and 50.6 were female.

All survey measures were pretested. The survey instruments were developed originally in English. The instruments were translated from English into standard Chinese. The translation procedure included two steps. First, the instruments were translated into Chinese (via Nanjixing computer software program). Then the Chinese version was translated back into English for meaning checks. The results of the comparison of the two English versions showed that the two versions had some wording differences but no major changes in meaning. Therefore, only few refinements to the questionnaire were made.

During the translation, the cultural difference between the American and the Chinese was given consideration. For instance, the word "individualism" could be translated into their different Chinese terms, such as "ge ren zhu yi", "zi shi qi li", and "bu kao ta ren." However, in Chinese culture "ge ren zhu yi" carries a negative meaning while "zi shi qi li" carries a positive meaning. If "individualism" was translated into either "ge ren zhu yi" or "zi shi qi li," it could lead to a biased answer. Therefore, "bu kao ta ren" was used.

The pre-test of the instrument was conducted among ten high school students in Beijing. It was done by a Chinese high school teacher. The completed pre-test questionnaires were then checked by the principal investigator. There were no major changes as a result of the pretest.

Variable Formation

Seven variables were formed from the questions posed to the respondents. Geces 13-item semantic differential scale was used to measure self esteem. The 13 adjective pairs include powerful-powerless, confident-lack confidence, strong-weak, wise-foolish, do most things well-do few things well, brave-cowardly, honest-dishonest, good-bad, kind-cruel, dependable-undependable, generous-selfish, and worthy-worthlessness. Pairs were rated by respondents on a 1-7 scale. the average value was used to measure self esteem.

Personal financial resources were measured by the amount of money earned from part-time after school jobs.

Identification with western values was measured with a 7 point Likert scale. There were 10 items in the index. The values included equality, freedom, competition, individualism, honesty, ambition, responsibility, tolerance, wealth, and being broad-minded.

Family purchasing involvement was measured by extracting the first principal component from the responses to 11 statements (Table 2). The 8 statements with the highest loadings were used to construct this index.

Concept-oriented and social-oriented families were measured from two orthogonally rotated factors of 10 statements (Table 3). The 5 statements loading high on factor 1 measure the concept -oriented family, while the 4 statements loading high on factor 2 measure the social-oriented family.

Exposure to American mass media was measured using an index developed by Nelson using 3 items; (a) Number of American movies seen in the last 30 days, (b) Number of American movies seen on the VCR in the past 30 days, and (c) Number of American TV programs watched in the past 30 days.

Analysis Results

Two multiple regression models were estimated. The first related family purchasing involvement to the hypothesized explanatory variables. The second related identification with western values to the hypothesized explanatory variables. Results are shown in Table 1. Involvement in family purchasing decisions was significantly affected by all hypothesized variables but social-oriented families at the .06 level. All variables had the hypothesized sign. One reason for the non-significance of the social-oriented family could be the measurement of this variable. The Cronbach alpha for this variable was 0.56. In contrast, the Cronbach alpha ranged from 0.70 to 0.85 for the indices measuring family purchasing involvement, self-esteem, the concept-oriented family, and identification with western values.

Identification with western values was significantly affected by the concept-oriented family, but not by either exposure to American TV or by the social-oriented family. The sign of the relationship between concept-oriented family and identification with western values agreed with the hypothesis.

Discussion

The study focuses on the effects of the Chinese adolescents' consumer socialization which is involvements in family purchasing activities. The predictors for the involvement include family type, family structure, self-esteem, personal financial resources, and identification with Western values.

Table 1
Regression Analysis Results

I. Dependent Variable - Involvement in Family Purchasing Activities

Explanatory Variables	*t*-value	Prob.
Single-Child Family	1.914	0.0564
Concept-Oriented Family	3.418	0.0007
Social-Oriented Family	-0.914	0.3668
Self-Esteem	2.104	0.0360
Personal Financial Resources	2.223	0.0269

$R^2 = 0.065$

II. Dependent Variable - Identification with Western Values

Explanatory Variables	*t* -value	prob.
Exposure to American TV	1.39	0.1652
Concept-Oriented Family	5.01	0.0001
Social-Oriented Family	0.30	0.7668

$R^2 = 0.065$

In China, family plays a central role in socializing its members. According to Chinese values, the family is the most important social unit in which they live, grow, and interact with each other. The Chinese believe that parents are the key figures in a family. Although this relationship is being challenged due to the current economic reform, traditional attitudes toward parents' power are hard to change.

The social-oriented family did not have a significant impact on the adolescents' involvement in family purchasing. Concept-oriented family and social-oriented family may not be mutually exclusive in the Chinese culture. These families may, on the one hand, keep their traditional culture and teach their children to respect parents; on the other hand, they encourage their children to speak out about family issues.

The concept-oriented family was a significant predictor of adolescents' involvement in family purchasing activities. This type of family tends to provide adolescents with opportunities to gain consumer knowledge, sharpen their consumer purchasing skills and develop their family responsibility.

Adolescents' identification with Western values can also be predicted from the concept-oriented family. On the other hand, the social-oriented family had no significant impact on Western value acceptance. This suggests that the concept-oriented family is the primary socialization agent. Chinese adolescents'

Table 2
Principal Component Analysis of Family Purchasing Involvement.

	Statement	Loading
1.	I feel better about what we buy when I help my parents decide on a product.	0.49
2.	It doesn't bother me at all when my parents buy a product for family use and don't ask what I would like.	0.23
3.	I am often unhappy with family purchases if I haven't had a part in helping to decide on them.	0.59*
4.	When my parents are about to buy a product, I usually suggest a price range I think we should consider.	0.52*
5.	I usually go shopping with my parents when we are looking for a product for family use.	0.69*
6.	I usually suggest stores to visit that would have the product our family wants.	0.72*
7.	I usually don't get to suggest particular brands when we are looking to buy something.	0.04
8.	When we are deciding to buy something, I usually get to suggest things I would like, such as color of features.	0.54*
9.	I pay attention to new products or new brands.	0.54*
10.	I usually get to tell my parents when to buy a product.	0.70*
11.	When my family is thinking of buying something, I try to learn what is the best buy around on that product.	0.58*

*Indicates the statement used in the index.

Table 3
Factor Analysis of Family Type.

	Statement	Factor 1	Factor 2
1.	Your parents' ideas are right and you shouldn't argue with them.	0.02	0.42*
2.	Your parents answer your argument by saying you'll know better when you grow up.	0.21	0.61*
3.	Your parents tell you not to say things that make people angry.	-0.15	0.77*
4.	Your parents say that you shouldn't argue with adults.	-0.24	-0.66*
5.	Your parents say that you should look at both sides of an issue.	0.57*	-0.37
6.	Your parents encourage you to question other people's opinions.	0.29	-0.31
7.	Your parents say that getting your idea across is important even if other's don't like it.	0.52*	-0.39
8.	Your parents ask for your opinion when the family is discussing something.	0.86*	0.10
9.	Your parents say every member of the family should have some say in family matters.	0.83*	0.04
10.	Your parents admit that kids know more about some things than adults do.	0.72*	0.10

*Indicates the statement used in the indices.

family purchasing involvement can also be explained by the single-child family. The power and resources owned by single-child helps him/her use his/her power and resources to be involved in family consumption activities.

Another two successful predictors for involvement in family purchasing activities are self-esteem and personal financial resources. Self-esteem carries motivational properties Gecas (1986). It motivates Chinese adolescents to participate in their family purchasing activities.

Identification with Western values did not have any significant impact on adolescents' family purchasing involvement was unexpected. Theoretically, Western values carry motivational properties and adolescents who identify with them be should more involved in family purchasing activities.

Exposure to American TV programs did not lead to significant identification with Western values. This contradicts the findings of other studies. According to cultivation theory (Gerbner, et al., 1980), people pick up values, ideals and beliefs from what they watch on television. Television has become a storyteller, and a carrier of culture (Gerbner, et al., 1980).

This study does have limitations. First, consumer socialization is best investigated through a longitudinal study since socialization is a process. A single period study limits researchers in seeing the complete picture of how Chinese adolescents develop their consumer cognition, consumer affect and consumer behaviors.

Second, it would be better if a random selection of Chinese adolescents across China was used. The results are only applicable to adolescents in large cities.

Third, the measures of exposure to American television and Western culture in general, should be improved. For example, the media exposure measures did not include cable television programs which have become very popular in Beijing.

Finally, the cultural significance of the concept-oriented and social-oriented measure needs to be reconsidered before being used in China. These measures need to be oriented more to the specific culture. Questions related to social-orientation are of the most concern.

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Decision-making Styles of Young-adult Chinese Consumers: An International Comparison[1]

Using a modified framework of consumer decision-making styles and data recently collected from five Chinese universities, this study investigated the dimensions and profiles of consumer decision-making styles of young-adult Chinese consumers and compared the results with those of similar studies utilizing American and Korean data.

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This study has several purposes: (1) to develop a modified and improved conceptual framework to study consumer decision-making styles in general, based on existing literature in this field; (2) to study the dimensions of consumer decision-making for young Chinese consumers; (3) to provide a profile of consumer styles for young Chinese consumers; and (4) to compare the consumer decision-making styles of young Chinese consumers with those of young American and Korean consumers.

The study cannot only enhance our understanding of the process of consumer decision-making, but also has implications in educating consumers about their decision-making styles and counseling families on financial management (Sproles and Kendall, 1986). International comparisons of consumer decision-making styles can further our understanding of the impact of market environment on consumer decision-making, and possible cultural differences in consumer decision-making styles. International consumer research is also useful in the building of a general science of consumer ecology and in better understanding of one's own culture while comparing it with another.

Several features are unique in this study: (1) this is the first study that uses Chinese consumer data to study consumer decision-making styles; (2) this study develops a modified and improved conceptual framework to study consumer decision-making styles in general; and (3) this study conducts an international comparison of consumer decision-making styles to further our understanding of this topic.

Modified Conceptual Framework

The assumption underlying the consumer characteristics approach is that consumers have several cognitive and affective orientations that determine their consumer decision-making styles (Sproles and Kendall, 1985; 1986). When making a purchasing decision, a consumer has several dimensions he/she has to consider simultaneously. For example, how much information should he/she collect about this product? How much time should he/she spend on searching? How much is he/she willing to pay for the product? Which brand should he/she prefer? And how much attention should he/she pay to the quality of the product? These dimensions of consumer decision-making are assumed to be independent of each other.

Based on previous literature, Sproles and Kendall (1986) proposed an eight-dimension model of consumer decision-making: (1) perfectionism or high-quality consciousness, (2) brand consciousness, (3) novelty-fashion consciousness, (4) recreational, hedonistic shopping consciousness, (5) price and "value for money" shopping consciousness, (6) impulsiveness, (7) confusion from over-choice, and (8) habitual, brand-loyal orientation toward consumption. Hafstrom et al (1992) added another dimension of "time-energy conserving" to the original eight-factor model. A close examination of these nine factors revealed possible overlaps among the dimensions, which violated the assumption underlying this approach. Specifically, there were three issues of concern related to these nine factors: (1) The dimension "price-value conscious" was a combination of "price" and "quality" dimensions, given that the term "value" implied "paying the lowest price possible for the highest quality", (2) The dimension "impulsiveness" seemed to overlap with "habitual, brand-loyal orientation toward shopping," since these two characteristics were just the opposites to each other, and (3) The dimension "time-energy conserving" reported by Hafstrom et al (1992) seemed to overlap with the "recreational shopping consciousness" dimension, as the authors themselves suspected.

Thus, there was a need to develop a more clear-cut conceptual framework to guide the investigation of consumer decision-making styles. Based on the results of previous studies, we proposed the following as among the most basic mental characteristics of consumer decision-making in our modified conceptual framework: (1) brand-consciousness; (2) fashion-consciousness; (3) quality-consciousness; (4) price-consciousness; (5) time-consciousness; (6) selection-methods, and (7) information-awareness.

Dimensions (1) through (4) were characteristics related to the product a consumer purchases, and were therefore similar to dimensions (1), (2), (3) and (5) in the framework proposed by Sproles and Kendall (1986). "Value for quality" was not included in our "price-consciousness" dimension for reasons discussed earlier. Dimensions (5) through (7) were related to the shopping process. "Time-consciousness" should include both "time-energy conserving" and "recreational shopping" as two opposite ends of this dimension. "Selection-methods" should include both "impulsiveness" and "habitual purchase" as two opposite ends of this dimension. Finally, the dimension of "information-awareness" should include not only "confused by over-choice," but also "being able to process and take advantage of information available" as the opposite end.

Even with these reduced dimensions, some overlaps might still exist. A possible crossover could be between the "fashion" dimension and other dimensions. In their Footnote 4, Sproles and Kendall (1986, p.271) reported moderate, yet significant correlation between their "fashion-consciousness" and "brand-consciousness" dimensions, and "fashion-consciousness" and "recreational-shopping consciousness" dimensions, among other things. Fashion could be led by certain brands that have established the reputation of being fashionable over time, and only consumers who loved shopping would likely be aware of what was fashionable. There might be a possible crossover between "brand" and "quality," especially for experience goods where consumers could not judge the quality just by viewing the products. Furthermore, "selection methods" in the shopping process might overlap with "time-consciousness," since consumers who hate spending time shopping were probably more likely to be habitual shoppers, while consumers who enjoyed shopping were more likely to be impulsive shoppers.

Methods

Data Collection

The data used in this study was collected in the summer of 1996 from five universities in Guangzhou, China. The questions in the questionnaire were originally used by Hafstrom et al (1992), which generated meaningful results and were reported in English. These questions were translated into Chinese by a consumer economics professor who is a native speaker of Chinese with an advanced degree in consumer economics in the United States. Under the supervision of an international economics professor, students in an upper level economics class at a university in Guandzhou, China, went to five universities in the same city to distribute and collect questionnaires. Among 407 students who returned usable questionnaires, 39% were females, 81% from urban hometowns, 42% economics and business related majors.

Method of Analysis

Following Sproles and Kendall (1986), similar analytical methods were used in this study. Based on our modified conceptual framework, we did our factor analyses with 7, 6 or 5 factors, testing the possibility of overlaps between certain factors among young Chinese consumers. The method of factor analysis used was principle component analysis with varimax rotation (Kim and Mueller, 1978).

Cronbach alpha reliability tests (Carmines and Zeller, 1979) were then conducted to test the reliability of the items and descriptive analysis profiling consumer decision-making styles for young Chinese consumers were carried out. Finally, the consumer decision-making styles of young Chinese consumers were compared with those of the young Korean and American consumers.

Results and Discussion

Models with Different Numbers of Factors

A seven-factor model clearly identified five dimensions: (1) brand-consciousness; (2) time-consciousness; (3) price-consciousness; (4) quality-consciousness; and (5) information-awareness. The last two dimensions were some combinations of "selection methods" and "information-awareness." Cronbach alpha reliability tests were conducted using the four items loading highest on each factor. The results of the reliability tests, presented in Table 1 (available from the authors upon requests), showed that the last two factors were unreliable. A six-factor model confirmed the first five dimensions in the seven-factor model, with a sixth factor being a combination of the "time-consciousness," "selection methods" and "information-awareness." Again, Cronbach alpha reliability tests showed the last factor to be unreliable. The results of the five-factor model further confirmed the first five factors, with all factors showing reliably based on the Cronbach alpha statistics.

Clearly, the seven-factor model proposed in the conceptual framework had overlaps among different dimensions. A close examination of the six-factor model also revealed an unreliable and not very meaningful sixth factor. The possibility of overlaps between dimensions was discussed in the conceptual framework section. Given the results of data analysis, we thought a five-factor model was the most appropriate one when using this data set. The five-factor model was also supported by "scree-test." The scree-test directed one to examine the graph of eigenvalues, and to stop factoring at the point, where the eigenvalues began to level off, forming a straight line with an almost horizontal slope (Kim and Mueller, 1978, p.44). In our analysis, the eigenvalues started to level off after the fifth factor.

Results of the 5-Factor Model

The results of the 5-factor model are presented in Table 2. Items loading .4 or higher on each factor are reported. The final communality total was 13, which implied that the five factors explained 35% (13/37) of the variances.

Compared to the proposed conceptual framework with seven dimensions of consumer decision-making styles, two dimensions were not confirmed using our data set. These two dimensions were the "fashion-consciousness" and the "selection methods" dimensions. As discussed earlier, the "fashion-consciousness" is probably embedded in the "time-consciousness" dimension, since consumers who are fashion-conscious are likely to be recreational shoppers.

As discussed in the "Framework" section, we considered the dimensions "impulsive, careless consumer" and "habitual, brand-loyal consumer" used by previous studies (Hafstrom et al, 1992; Sproles and Kendall, 1986) to be one dimension, and labeled this dimension as "selection method." In this study, most questions representing "method of selection" dimension, such as "I have favorite brands that I buy over and over again," "I change brands I buy regularly," and "Once I find a product or brand, I stick with it," which were loaded in the dimension of "habitual, brand-loyal consumer" in Hafstrom et al (1992), did not load high on any of the five factors. In Hafstrom et al (1992), four items were loaded on the factor labeled "impulsive, careless consumer," but in this study three out of the four items were loaded on three factors: time-consciousness, quality-consciousness, and information-awareness, respectively. We suspect that the dimension of "selection methods" is a function of some or all of the five dimensions identified. For example, impulsive purchasing behavior is probably linked to recreational shopping with little brand, quality or price consciousness.

Based on the results of our data analysis, we propose a further modified conceptual framework to analyze the consumer decision-making style for young Chinese consumers. This framework should include five dimensions: (1) brand-; (2) quality-; (3) price-; (4) time-; and (5) information-conscious.

A Profile of Consumer Decision-Making Styles for Young Chinese Consumers

Following the same approach used by Sproles and Kendall (1986), we developed a profile of consumer decision-making styles for young Chinese consumers, employing the four-item subscales. Scores on each factor were computed by adding raw scores on the four top-loading items, for each consumer in the sample (items loaded negatively were reverse scored). The range of the scores a consumer in the sample could have on any factor was from 4 to 20. Table 3 (available from the authors upon requests) presents the means of each four-item scale, and quartile score ranges. These statistics can be used to calculate profiles of consumer decision making styles for individual consumers, as Sproles and Kendall (1986, Table 4) did, which would be useful for consumer education and financial counseling.

The results show that the average young Chinese consumer in the sample was not very brand-conscious, but quite quality- and price-conscious. He/she was neither very interested in recreational shopping, nor too confused by the available product and shopping information.

Comparison: China, Korea and the United States

The conceptual framework used in this study was slightly different from the ones used in Sproles and Kendall (1986) and Hafstrom et al (1992). Actual questions and numbers of questions used were different between these studies. Same questions, when translated from English to Korean or Chinese, might have different underlying meanings. Furthermore, cultural and situational differences between these nations should be

Table 2.
Characteristics of Chinese young-adult consumer decision-making styles: five-factor model with loading .4 or higher

Styles Characteristics and Items	Factor Loadings
Factor 1. Brand-Consciousness:	
Highly advertised brands are usually very good	0.64
A brand recommended in a consumer magazine is an excellent choice for me	0.55
The well-known national brands are the best for me	0.55
The higher the price of a product, the better its quality	0.53
I usually compare advertisements to buy fashionable products	0.46
Expensive brands are usually the best	0.44
All brands are the same in overall quality	0.42
The most expensive brands are usually my choices	0.41
Factor 2. Time-Consciousness :	
I take the time to shop carefully for best buys	0.71
I enjoy shopping just for the fun of it	0.66
I keep my wardrobe up-to-date with the changing fashions	0.56
Shopping the stores wastes my time (-)	-0.50
I cannot choose products by myself (-)	-0.47
I make my shopping trips fast (-)	-0.46
I am impulsive when purchasing	0.45
Factor 3. Quality-Consciousness:	
My standards and expectations for products I buy are very high	0.69
I make specially effort to choose the very best quality products	0.60
I usually buy well-known, national, or designer brands	0.45[b]
When it comes to purchasing products, I try to get the very best or perfect choice	0.42
It's fun to buy something new and exciting	0.42
I should plan my shopping more carefully than I do	0.40
Factor 4. Price-Consciousness:	
I carefully watch how much I spend	0.68
I consider price first	0.56
The lower price products are usually my choices	0.54
I usually compare at least three brands before choosing	0.52
The most expensive brands are usually my choices (-)	-0.50[a]
I usually buy well-know, national, or designer brands (-)	-0.44[b]
Factor 5. Information-Awareness:	
All the information I get on different products confuses me	0.65
There are too many brand to choose from that often I feel confused	0.57
Sometimes it's hard to choose which stores to shop	0.53
Often I made careless purchases I later wish I had not	0.48

a Item loads on factor 1 and 3.
b Item loads on 3 and 4.

considered. Given these, formal and direct comparison of results of these studies were difficult, and following discussion should be viewed as only informal and indirect comparison.

Number of dimensions. Table 4 (available from the authors upon requests) presents the comparison of dimensions identified in these three countries. Overall, the dimensions of consumer decision-making identified were very similar among young-adult consumers in these three countries. Young consumers in the three countries all had these five dimensions: (1) brand-consciousness, (2) quality-consciousness, (3) price-consciousness, (4) time-consciousness, and (5) information-consciousness. While the dimensions of "time-energy conserving" for the Korean sample and "novelty-fashion consciousness" for the American sample could be embedded in the "time-consciousness" dimension, the dimensions of "impulsive" and "habitual-brand-loyal," both identified for the Korean and the American samples, were not confirmed using the Chinese sample. The difference may result from the different economic growth stages of these countries. Both the United States and South Korea have much matured market economies and consumer purchasing powers are much higher than Chinese consumers. The missing dimensions of consumer decision-making styles may be identified later when China's economic growth achieves a higher level and consumer purchasing powers become stronger.

Profiles of consumer decision-making styles. Sproles and Kendall (1986, Table 3) calculated scores of three-item subscales for the identified dimensions based on the data from a sample of American high school students. In this study, we calculated the similar scores of four-item subscales for identified dimensions based on a sample of Chinese college students (Table 3). Keep the differences of the computational methods and samples in mind, the two sets of scores present some interesting diversities. Obviously, American consumers tend to have higher scores in all dimensions. For example, only 15% of American samples but 52% of Chinese samples were in the "low" category of scoring of dimension "brand-consciousness." The difference may reflect the different levels of maturity of consumers in the two countries. American consumers, even as young as high school students in the sample, may be more advanced in the consumer socialization process than the Chinese consumers who are college students in our sample, which is understandable considering the stage of economic development and transitional economy status in current China.

Another difference is that American consumers seemed more likely to be confused by over-choice. In the dimension "information-awareness" that was labeled as "confused by over-choice" in Sproles and Kendall (1986), the sample mean of Chinese consumers was less than the expected mean, 11.5 vs. 12, but the sample mean of American consumers was greater than the expected one, 9.7 vs. 9. The difference may result from the market development levels of the two countries. Even though the consumer commodity market in China has been developing rapidly, the actual level is still much lower than the one in the United States, and information overload may not be a serious issue compared to the situation in the United States. Since Hafstrom et al (1992) did not report a profile of consumer decision-making styles for their Korean sample, no comparison can be made between the Chinese and the Korean consumers in this respect.

Item loading. The items loaded on each dimension were quite similar, although not exactly the same. The item "A brand recommended in a consumer magazine is an excellent choice for me" loaded on the "brand-consciousness" dimension for the Chinese sample, but on the "time-energy conserving" dimension for the Korean sample, and did not load significantly on any of the factors identified for the American sample. The item "I usually buy well-known, national or designer brands" loaded positively on the "quality-consciousness" dimension for the Chinese sample, but on the "brand-consciousness" dimension for the Korean sample, and did not load significantly on any of the eight factors for the American sample.

There are two categories of products that are considered to be brand-name products by Chinese consumers. One category is the well-established domestic brands, such as many products made in the Shanghai area. These products have been well known for their good qualities even before the economic reform in 1978. The other category is products that are either newly imported, or manufactured by joint-ventures in China. Manufactures of these products heavily advertise their products to establish a "yuppy product" image. The products are usually fashionable and expensive, yet the quality is not necessarily good. It is possible that the students in our sample interpreted the national brands as the first category of domestic national brands, and the brand names recommended by consumer magazines the second category of brand-name products whose manufacture spend much money on advertising. Therefore, the first category of brand-name products are more likely to be identified with the quality dimension, and the second category of brand-name products are more likely to be identified with the brand dimension.

Conclusions

In this study we presented a modified conceptual framework of consumer decision-making styles based on previous studies in order to make it logically more consistent. Using data recently collected from five Chinese universities, a five-factor model of consumer decision-making styles was confirmed. The model assumed that consumer decision-making styles have five dimensions that are brand-, time-, quality-, price-, and information-consciousness.

Informal comparisons between this and previous studies indicated several differences between young Chinese consumers, and young American and Korean consumers. Our analysis did not confirm two other dimensions proposed: "selection methods" and "fashion consciousness", while one or both of the two dimensions were reported in previous studies using American and Korean data. The comparisons also indicate that a larger percentage of Chinese consumers tend to score low in all confirmed dimensions than their American counterparts. Differences of item loadings were also found.

Aside from the differences identified, the major dimensions of consumer decision-making styles are similar in all three studies. The five dimensions confirmed in this study were confirmed by studies using data from the United States and South Korea.

This study has two limitations. First, in this study we used a modified conceptual framework, but the questions asked were based on previous studies using a slightly different conceptual framework. Thus, some questions that should be asked based on the modified conceptual framework were not asked in this study. Second, an international comparison would be much more powerful if raw data were collected simultaneously from consumers with similar characteristics in several countries. In this study, only informal and indirect comparisons were made because of data limitations. Another issue of international comparison research is to identify items that can be used in different countries or cultures without misperception or misinterpretation.

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Endnotes

1. Because of the page limitation, this version is much shorter than the original paper. A longer version is available from Xiao upon request.
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Experiential Consumption: A Little Information May Not Be a Good Thing

The findings of three experiments are summarized which suggest that the informational needs for consumer purchase decisions relating to certain experiential products, namely entertainment narratives (e.g., novels, plays and films) containing surprise story elements, may be qualitatively different from the informational needs associated with other products.

Monroe Friedman, Eastern Michigan University[1]

The focus of this study is on feature films with special attention to one particular genre, i.e., mysteries. This genre has as its defining property certain classic plot components, such as the planned or actual commission of a major crime (often murder), the subsequent search for suspects, and the eventual identification and apprehension of the guilty party, who, if the author has successfully practiced his or her craft, is a person one would not suspect of the crime. Indeed, this surprise element in mysteries is perhaps its singular characteristic and it appears in the works of such writers as Agatha Christie and P. D. James.

Reviewers and advertisers of mystery novels, plays and films have long acknowledged the importance of surprise elements by deliberately withholding information from the audience about significant unexpected events in a story; the objective, of course, is to permit the reader to experience the unexpected event in the surprised manner intended by the author. It would appear that societal norms respecting the non-disclosure of surprise elements in advance are well-established, and especially for mystery stories.

Study Hypotheses

The hypotheses for the studies described herein consider the effects on audiences of advance disclosure (vs. non-disclosure) of information concerning certain elements in the stories told in three feature films. The first of these, which was used to test the effects of complete vs. incomplete information, was Death on the Nile, a 1978 adaptation of an Agatha Christie classic mystery novel. The second film, a non-mystery used as a control for the first film, was French Connection II. This is a 1975 cops-and-robbers sequel to the Oscar-winning French Connection. While there are many suspenseful twists and turns in French Connection II, it is not considered a mystery in the classic ""who-dunnit"" sense in that the film's ending comes as no surprise to viewers. The third film, Sleuth, an award-winning British mystery, was used to examine the effects of true vs. false information disclosures on the viewers' experience of the film. The disclosure of concern relates to a surprise development which occurs midway through the film.

The dependent variables all concerned the consumer experience of the various films. Since the main consumer benefit from viewing films is enjoyment, it is this subjective dimension which was the primary focus of the study although related hedonic dimensions (involvement, power and excitement) were also explored.

The research hypotheses are as follows:

1.Viewers of a classic mystery film (Death on the Nile) will find the film experience adversely affected by the advance disclosure of information revealing the film's ending. In particular, these viewers, as compared to a control group not presented with advance information about the film's ending, will find the film experience to be a) less enjoyable, b) less involving, c) less powerful, and d) less exciting.

2.Viewers of a non-mystery (suspense) film (French Connection II) will not find the film experience adversely affected by the advance disclosure of information revealing the film's ending since the ending is not surprising (as expected, the police get their man). In particular, these viewers, as compared to a control group not presented with advance information about the film's ending, will not find the film experience to be a) less enjoyable, b) less involving, c) less powerful, or d) less exciting.

3.Viewers of a mystery film (Sleuth) will find the film experience adversely affected by the advance disclosure of information concerning a significant surprise development occurring midway through the film. In particular, these viewers, as compared to a control group not provided with this information in advance, will find the film experience to be a) less enjoyable, b) less involving, c) less powerful, and d) less exciting.

4.Since the disclosed information for Sleuth relates not to the film's ending but the film's middle, the disclosure effect is expected to be less pronounced for this film than for Death on the Nile. (The point here is that the viewers' last experience with a film is its ending, and their sense of disappointment is likely to be especially acute if they are denied a surprise experience at this point rather than earlier in the film.) Needless to say, the effects of disclosure are expected to be least pronounced for French Connection II since the film's ending is not surprising. To sum up, the effects of disclosed vs. nondisclosed information for the three films on viewer reaction are hypothesized to be strongest for Death on the Nile and weakest for French Connection II with Sleuth occupying a middle position between the other two films.

Research Design and Results

The research design consisted of three simple experiments, each with an experimental group and a control group. Each experiment focused on one of the three feature films identified earlier. For each experiment the independent variable consisted of the disclosure or non-disclosure, prior to viewing the film, of information pertaining to certain developments in the film. Four dependent variables were explored which asked how the viewers, after seeing the film, rated it on a ten-point scale with regard to enjoyment, involvement, power and excitement. For each experiment approximately 130 college students were randomly assigned to the experimental group (disclosure) or the control group (non-disclosure). All in all, 397 students were tested in the three experiments.

The results relating to the four hypotheses are supportive of them. First, the mean differences found for Death on the Nile on all four subjective measures are in the expected direction in that the disclosure group students found the experience less positive than did the non-disclosure group students. For each of the four comparisons the effect was highly significant statistically although, practically speaking, the mean differences were modest in magnitude (about one and a half points on a ten point scale) as was the proportion of variance on the subjective measures accounted for by disclosure condition (11 to 12 percent).

Second, we found, as predicted, little difference on all four subjective measures between the mean scores of the disclosure and non-disclosure group students who viewed French Connection II. Not only were these differences not significant statistically but they were also not substantial practically in that they averaged less than half a point in magnitude on the ten point scales used to determine values on the four subjective measures.

Third, as predicted, the results for Sleuth fell between the other two films. An informational disclosure was intended to adversely affect the viewers' experience and this was indeed the result for all four subjective measures. However, the mean differences were very modest in size and just barely statistically significant. Also very modest in magnitude were the near-zero proportions of variance on the four dependent variables accounted for by the independent variable.

Thus we find support for all of the first three study hypotheses as well as the fourth, which predicts which of the three films would yield the largest disclosure effect (Death on the Nile) and which would yield the smallest (French Connection II).

Study Implications

The study findings, while limited to three films, nonetheless suggest that consumers who are exposed, prior to viewing a feature film, to disclosures in film reviews or previews of major surprise developments in the film, might well find that their later experience of the film is adversely affected by the disclosures. These findings suggest that such disclosures not be made, and if this is not possible, that consumers be warned, when practicable, of their presence, i.e., in film reviews.

Endnotes

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Indicative Measures of Health Risk Information on Fat and Cholesterol for U.S. and Japanese Consumers

This paper deals with the measurement of the consumer's health risk information on fat and cholesterol in Japan and the U.S. A new index is specified based on the numbers of articles related to fats and cholesterol published in medical journals in English (for the U.S.) or in Japanese (for Japan). In considering the carryover effect of published medical articles on the consumer's health risk belief, alternative weighting methods are employed rather than an ad-hoc accumulation method. These new indexes show strikingly different historical patterns of health information than either time trend or a simpler index.

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The issue of diet and health has been a major concern not only to consumers but also to those involved in the food industry. However, it is not clear how much the consumer knows about the relationship between diet and health. On the basis of vast medical and dietary research on diet and health, increasing health information has become available to consumers through such sources as health professionals (contact with doctors and nutritionists) and mass media. In the meantime, there have been drastic changes in the consumption patterns of many foods, notably red meats vs. white meats, whole milk vs. low fat milk, and vegetable oils vs. animal fats. All these observed trends prompted many economists to hypothesize a strong relationship between health risk concerns and food consumption.

Several demand studies of U.S. fats and oils (e.g.,Yen and Chern, 1992; and Chern, et al., 1995), found that the consumer's health risk information on cholesterol has induced significant increases in the consumption of vegetable oils (soybean, corn and cottonseed oils) and decreases in the consumption of animal fats (butter and lard). However, this subject of health and diet remains controversial. There were conflicting evidences regarding the impacts of health concerns on the demand structure of foods with high content of fat and cholesterol (e.g., Eales and Unevehr, 1993).

To some extent, this methodological issue in investigating the structural change in consumer demand was caused by the measurement problem of health concerns. Since most demand studies used time-series data (monthly or annually), researchers need to construct the health information data over a historical period. The methodology of constructing such historical series represents a challenge to researchers working in this field. The methods used by Brown and Schrader (1990), and Chern and Zuo (1995) are far from perfect. The purpose of this study is to extend the previous methods by introducing a more realistic specification of the carry-over effects of published information and to employ these alternative methods to construct the information indexes for U.S. and Japan. Since Japanese have a longer life expectancy and have consumed less fats and oils on a per capita basis than Americans, it is interesting and important to compare whether consumers in Japan possess a different pattern of changes in health information about fats and cholesterol than those in the U.S.

Type and Source of Health Information

Information can be classified by type, e.g., biased vs. unbiased, accurate vs. inaccurate, or favorable vs. unfavorable. Weinberger and Dillon (1980) argued that unfavorable product information may be more effective than a similar amount of favorable information. Evidently, the source and type of information have different impacts on the consumer's decision making. Engel and Blackwell (1982) suggested that, in general, personal and neutral information are more influential than the same amount of nonpersonal and market oriented non-neutral information. It is generally accepted that information obtained from personal interaction with someone such as a doctor is considered more effective than information obtained directly from the news media. Furthermore, neutral information, such as that obtained from a doctor and other objective sources are more effective than non-neutral information obtained from advertising and other market oriented sources.

Basic medical and dietary research articles are the primary sources of consumer health information. The health information from the basic medical and dietary articles is conveyed to consumers through (1) health professionals including doctor, nurse, nutritionist, and dietitian, (2) mass media such as television and newspapers, and (3) food industry. Mass media conveys both neutral (news report) and nonneutral (advertising) health information to consumers, while health professionals convey more neutral information. The consumer's health information from these sources may affect their health risk belief toward the products, hence alter their consumption decision. This analysis of health information provides a justification for constructing the Fat and Cholesterol Information Indices using the number of articles related to fats and cholesterol published in medical journals.

Alternative Measures of Health Information

Recently, potential health risks associated with fat and cholesterol intakes have received increasing attention among consumers. However, despite of this apparent trend, how to quantify the degree of the consumer's changing health concern has been a difficult methodological problem. One of the most widely used methods is to incorporate a time variable as a measure of the increasing trend of consumer health information.

In order to provide a better proxy of consumers' health information than a time trend variable, Brown and Schrader (1990) constructed their Cholesterol Information Index denoted as CHOL, a quarterly time-series variable for 1966-1987 by simply accumulating the numbers of published medical articles supporting a link between cholesterol and arterial diseases, minus the number of articles questioning such a link. The basic idea underlying this index is that the articles published in major medical journals are the basic sources of health information which is conveyed to consumers through health professionals and mass media.

Another empirical study using the CHOL was conducted by Yen and Chern (1992). From the estimated results, they suggested that using this information variable does provide an additional account of the consumption shift from animal fats to vegetable oils, which in some cases can not be explained by prices and total expenditure alone.

Similar to the CHOL, Chern and Zuo (1995) developed the Fat and Cholesterol Information Index(FCII) using different key words and a new weighting method under the assumption that an article published in a specific time period has both carry over and decay effects. Specifically, their FCII was defined as a weighted sum of the number of articles published in all English medical journals linking fat(s),and cholesterol to heart disease or arteriosclerosis. A third degree polynomial weighting function was employed to obtain the weights and a one year lag period was selected by tracking the relationship between the number of articles published in the Washington Post and those published in medical journals.

In analyzing the effects of health risk information on such foods with high contents of fats and cholesterol as red meats, dairy products, animal fats and vegetable oil, Chern and Zuo's choice of key words, including fat(s), seems to be more complete than those used by Brown and Schrader. Furthermore, in contrast to Brown and Schrader's index, Chern and Zuo included all English articles published in medical journals from other countries including England, Canada, and other European countries because they are also important information sources affecting American health professionals and public media. They incorporated this index to evaluate the effect of U.S. consumers' health risk information related to fats and cholesterol on the consumption of fresh milk and dairy products.

As will be described in more detail later, the methods employed by Brown and Schrader (1990) and Chern, et al. (1995) made use of the numbers of the medical articles in supporting vs. not-supporting the linkage between the cholesterol and heart diseases. It was recently found that the number of articles finding no linkage has decreased dramatically in recent years since 1988, the last year included in their sample. Therefore, the methodology involving the distinction of supporting vs. not-supporting articles would become less useful for predicting the future information on health concerns related to fat and cholesterol. A method based on the total number of medical articles such as the one employed by Chern and Zuo would be more appropriate for future prediction. Therefore, this study attempts to update and extend the index developed by Chern and Zuo (1995).

Methodology

Brown and Schrader (1990) hypothesized that the consumer's attitude toward cholesterol changed slowly as scientific information accumulated over time. Their cholesterol information index (CHOL), a quarterly time-series variable for 1966-1987, was constructed by (1) scanning all articles in English connecting the links between diet cholesterol, serum cholesterol and heart disease or arteriosclerosis, (2) discarding irrelevant articles focused on smoking, obesity, alcohol abuse, or linked cholesterol with eye, joint, skin, or gall bladder disease, (3) discarding all Scandinavian, British and Canadian articles based on the belief that they are less likely to be read by U.S. physicians, and (4) simply accumulating the numbers of articles supporting the

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linkage minus those non-supportive or attacking the linkage, using equal weights for these two types of articles. Furthermore, they selected a two-quarter lag period, assuming that there is likely to be a 6-month lag between the time a new article is published and the time it has an effect on egg consumption. They did not consider any decay pattern for published articles.

In this study, we adopt and expand the methodology developed by Brown and Schrader(1990), and Chern and Zuo(1995), to construct the Fat and Cholesterol Information Indices (FCII) using the number of articles published in medical journals from the MEDLINE data base.

In constructing the U.S. version of the FCII, we selected medical articles relevant to U.S. consumers' health concern associated with fat and cholesterol using the same search key words: fat, cholesterol, and heart disease or arteriosclerosis as those used by Chern and Zuo(1995). Evidently, "fat" is an important key word ignored by Brown and Schrader (1990), which is considered to be crucial for the demand study for foods with high contents of fat and cholesterol. Their data series is updated to cover the period from 1965 to 1994 in this study. All medical articles written in English are scanned for selecting the relevant articles. Also we do not discard these articles linking cholesterol with eye, joint and skin, etc.

For the Japanese version of FCII, we selected medical articles relevant to Japanese consumers' health concern about fat and cholesterol using the search key words: (fat or cholesterol), (heart disease or arteriosclerosis or cerebral or stroke), and (Japan or Japanese). By adding the keywords "Japan or Japanese," only articles published in Japanese medical journals, written by Japanese researchers, or used Japanese data would be selected. In addition, the key word "stroke" is also included because Japanese have been more concerned about stroke than have Americans.

We first extend the method used by Brown and Schrader(1990) by considering the differentiated carryover weights for supporting and attacking articles. Specifically, the FCII is initially expressed as:

$$FCII_t = \sum_{i=0}^{n_S} w_{S_i} NS_{t-i} - \sum_{i=0}^{n_A} w_{A_i} NA_{t-i} \qquad (1)$$

where NS_t and NA_t are the numbers of articles supporting and attacking the linkage at period t (monthly) respectively, w_{Si} and w_{Ai} are the corresponding carryover weights, and n_S and n_A are the numbers of carry-over periods. The carryover weights w_{Si} and w_{Ai} and can be specified as functions of carryover period i and vectors of parameters θ_S and θ_A respectively as:

$$w_{Si} = g_S(i;\ \theta_S) \quad \text{and} \quad w_{Ai} = g_A(i;\ \theta_A) \qquad (2)$$

As suggested by Weinberger and Dillon(1980), supporting articles(unfavorable information) may be more influential than a similar amount of attacking articles(favorable information). Therefore, the carryover weights and periods of supporting and attacking articles may be differentiated. However, supporting and attacking articles are not differentiated in this study because the number of attacking articles has been very low and decreasing (less than 3%). In this study, all articles scanned are considered as relevant articles. Therefore, Eq. (3) may be rewritten as:

$$FCII_t = \sum_{i=1}^{n} w_i NM_{t-i} \qquad (3)$$

where NM_t is the total number of relevant articles at period t, n is the total number of carryover periods of a published article and w_i is the weight for the lagged period i. For $n = 12$, an article as a source of consumer information, will last for 12 months after it is published.

It is not obvious how to determine the duration of the effectiveness of a published article and its pattern of carryover effects. Indeed it has become somewhat controversial as to how one should calculate the carryover weights and duration. One of the most widely used methods for generating carryover weights is based on quadratic or second degree polynomial function used previously by Ward and Dixon(1989) in analyzing the effects of advertising. However, second degree polynomial function may not be appropriate for constructing the fat and cholesterol information index because this function generates symmetric weights.

Chern and Zuo(1995) used the cubic or third degree polynomial weight function (CWF) for constructing the FCII as:

$$w_i = g(i;\ \theta) = \gamma_0 + \gamma_1 i + \gamma_2 i^2 + \gamma_3 i^3 \qquad (4)$$

where θ is a vector of coefficients characterizing the cubic or third degree polynomial weight function. They determined the values of these coefficients(γ_i's) based on the following restrictions: (1) the maximum weight lies somewhere between the current period ($i=0$) and the last carryover period ($i = n+1$); (2) the minimum weights occurs at the last carryover period and can be set to zero, and (3) the sum of weights over the current and carryover periods is equal to 1. This index is denoted as FCII-CWF.

By selecting the number of total carryover period (n) and the carryover period with the maximum weight(m), Chern and Zuo constructed the FCII-CWF using Eq.(3). However, the restrictions they used in determining the coefficients(γ_i's) of cubic weight function may be problematic because a medical article published several years ago (e.g. 10 years) may still affect the current health knowledge of doctors and thus, of consumers.

Therefore, we propose to construct the FCII using the following geometrically declining weight function (GWF):

$$w_i = g(i;\, \theta) = \alpha\left(\frac{1}{1+d}\right)^i \qquad (5)$$

where d is decaying rate, i is carryover period. Accordingly, the new version of the FCII can be constructed using the following formula:

$$FCII_t = \sum_{i=0}^{n} \alpha\left(\frac{1}{1+d}\right)^i NM_{t-i} \qquad (6)$$

This index is denoted as FCII-GWF.

Results

The procedures developed above are used to construct the health information indexes about fat and cholesterol in the U.S. (English articles) and Japan (Japanese articles).

Using the numbers of articles identified in the Medline data base, we construct the FCII-CWF indexes by selecting the carryover period (n) i.e., number of months in this case, and the maximum effect occurring month (m). The choices and combinations of n and m can be infinite. We tried many versions of this index and found the general trend of this index remains relatively stable.

Figure 1 shows the monthly FCII-CWF indexes constructed for the U.S. for the cases of n = 12, m = 2. This index clearly exhibits fluctuation of consumer health information over time, distinctively different from the time trend or the CHOL. The graph shows there are lower peaks occurring around 1972 and the highest peaks occurring in late 1980s right after the National Cholesterol Education Program launched in 1986. Note that the number of published relevant articles peaked in 1988 with 79 articles. The numbers gradually decreased to 53 articles in 1993 and 72 articles in 1994. Consequently, the graph shows the index actually declined in recent years after 1990.

Figure 1. Fat and Cholesterol Information Index (FCII-CWF) in the U.S.

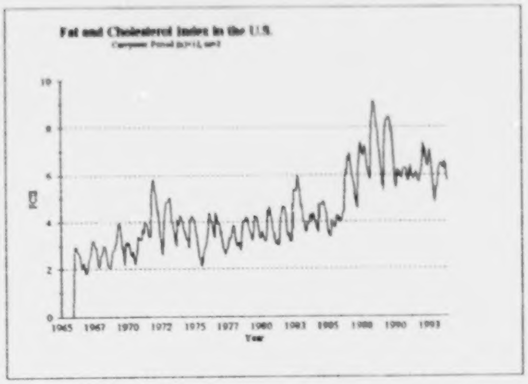


Figure 2. Fat and Cholesterol Information Index (FCII-CWF) in Japan.

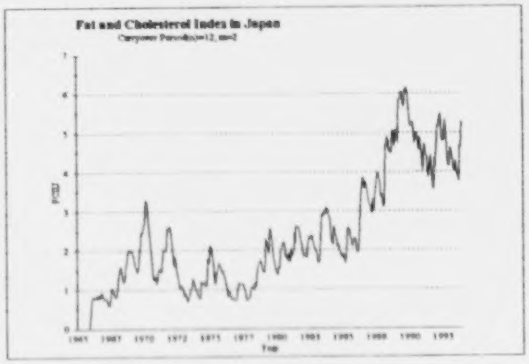


Figure 2 shows the monthly FCII-CWF index constructed using Japanese data. Japanese data show somewhat lower numbers of articles published over this sample period than the number of English articles used to construct the U.S. indexes. Interestingly, however, the Japanese index shows a very similar patterns of trend with lower peaks occurring in early 1970s and the highest peaks in late 1980s. There was a very sharp increasing trend during 1980s, particularly in the late 1980s. This similarity is perhaps expected because of the closeness in medical research between U.S. and Japan.

In order to construct the FCII-GWF, we need to select the decay rate d. Using the same set of data from the Medline, we constructed the monthly FCII-GWF indexes for U.S. and Japan with different values of d. The results show the indexes are very sensitive to the choice of d. Figure 3 shows two indexes constructed for the U.S. with d = 10%, and d = 20%. For a larger d, the effectiveness of a published article as a source of information decreased faster over time. Therefore, the index would have a higher magnitude when d is smaller. It is noted that despite of this sensitivity, the trends of the indexes exhibit much similarity with the highest peaks occurring in late 1980s.

Figure 3. Fat and Cholesterol information Indexes (FCII-GWF) in the U.S.

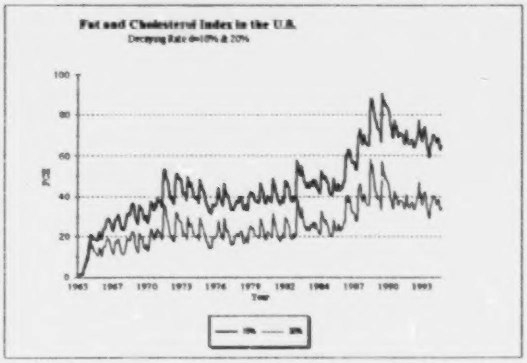
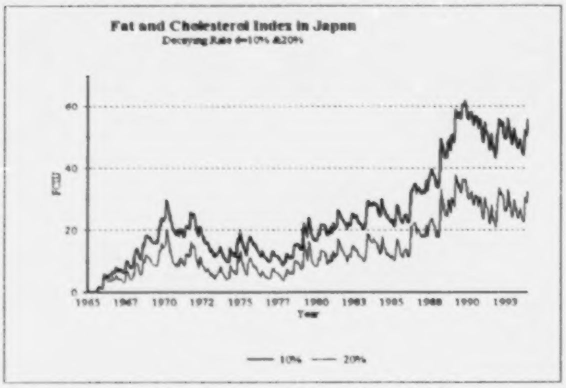


Figure 4 shows two FCII-GWF indexes constructed for Japan. Similar to the U.S. indexes, the higher decay rate results in a lower magnitude of the index. The two curves are parallel to each other over time, indicating they are reflecting a similar trend. The highest peaks occurred in late 1980s, with the lower curve (d = 20%) reaching the highest peak somewhat earlier than the upper curve (d = 10%).

Figure 4. Fat and Cholesterol Information Indexes (FCII-GWF) in Japan



For analyzing the changing patterns of the health information between the U.S. and Japan, a simple model regressing the logarithm of the indexes on the time trend variable is estimated. The time coefficient can be interpreted as the average growth rate of the consumer health information about fat and cholesterol. The results presented in Table 1 show that the FCII-GWF indexes are less correlated with time and yield higher growth rates than the FCII-CWF. Furthermore, the estimated growth rates from Japanese indexes are considerably higher than those estimated from the U.S. (English) indexes.

These findings indicate that the consumers in Japan may have increased their health information about fat and cholesterol at a more rapid rate than the U.S. consumers. However, it is not appropriate to claim that Japanese consumers are more health conscious than U.S. consumers because the U.S. indexes have higher magnitudes because the numbers of English articles were larger than Japanese articles. Also, the slightly different key words were used to identify the relevant articles in the two data sets.

Table 1: Estimated Growth Rate of Health Risk Information on Fat and Cholesterol.

		U.S.		Japan	
Index	Specification	Time Coefficient*		Time Coefficient*	
FCII -CWF	m=12 & n=2	0.0398	0.72	0.0572	0.71
FCII -GWF	d=10%	0.0476	0.63	0.0794	0.60
	d=20%	0.0428	0.68	0.0741	0.61

• All Coefficients of time variable are statistically significant at the one percent level

Further Validation

Whether or not the indexes developed in this study measured accurately the historical trends of consumer information on fat and cholesterol is difficult to verify. Note that both FCII-CWF and FCII-GWF indexes show that the consumer information actually declined in recent years. It may appear counter intuitive to the general belief that consumers in the U.S. or Japan should always become more knowledgeable about fat and cholesterol. However, if we accept the hypothesis that information from published articles should have a finite duration and decaying effects as a source of information, then one should not be surprised to see the declining trends of those indexes in recent years.

We examined the trends of fat and oil consumption for 1965-1994 in the U.S. and Japan, and found that the substitution patterns between vegetable oils and animal fats appear to be consistent with the historical trends of health information measured by both FCII-CWF and FCII-GWF indexes. In particular, there was a reversal of the declining trend in animal fat consumption in 1991 in both countries.

To formally test the validity of the indexes constructed in this study, we will need to examine their explanatory power in a demand system for such foods with high content of fat. This is the subject for further study in the future.

Conclusions

This paper presents alternative indexes for measuring the consumer's health risk information on fat and cholesterol. The methodology extends the existing indexes to provide a more flexible functional form in specifying the decay effects of information sources. These indexes were constructed for the U.S. and Japan based on the numbers of English and Japanese articles related to fat and cholesterol published in medical journals.

The results show that the information indexes incorporating the carry-over and decay effects exhibit strikingly different historical patterns of consumer health information than either the time trend or the information index simply accumulating the numbers of published relevant articles. Both the FCII-CWF (with a cubic weight function) and FCII-GWF (with a geometrically declining weight function) exhibit a similar pattern of changes in consumer health information about fat and cholesterol. They all indicate that the consumer information peaked in the late 1980s and declined in recent years. These trends of consumer information actually match very closely with the consumption trends of fats and oils in Japan and the U.S.

The comparison of the indexes between Japan and the U.S. shows that the rate of increase in health information has been higher in Japan than in the U.S. While there are many evidences regarding the impacts of health concerns on consumer demands for such foods as fats and oils, or red meats in the U.S., the existence of such impacts in Japan has yet to be investigated.

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Economic Security Issues of Married Couples versus Unmarried Couples

Cohabiting heterosexual couples and homosexual partners face a number of financial security issues that are different from those faced by married couples. This paper provides an overview of the bases for this differentiation and how financial security issues are related to assumptions regarding married and unmarried couples. The differences in financial security issues among the three types of couples are described.

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Marriage qualifies male-female unions for numerous public and private economic benefits, from health insurance coverage to the estate tax spousal exemption to reduced "family" rates at the local health club. Unmarried couples, whether heterosexual or homosexual, do not always have access to these benefits as they are treated as single individuals.

Cohabiting heterosexual couples choose to forego marriage, and the economic advantages it conveys, for a variety of reasons. Because, currently, no state sanctions homosexual marriages, the economic advantages and responsibilities of marriage are unavailable to same-sex partners. Over the life course, those who are not married and are maintaining families find that their financial security issues, strategies and decisions are different from those who are married. Furthermore, some security issues are different for cohabiting heterosexual couples than for cohabiting same-sex couples.

The traditional married-couple-with-children family model does not represent all family types. While family economists include single-parent families and, to some extent, remarried families in their curricula, few references can be found regarding unmarried couples, whether heterosexual or homosexual. The diversity of families and their disparate economic concerns needs to be consistently addressed (Stum & Dolan, 1994).

It is estimated that about 13 percent of the adult population is cohabiting (Waite, 1995). Ten percent or more of the population may be homosexual (Allen & Demo, 1995). Together, this is too large a segment of the population with economic concerns to ignore.

The purpose of this paper is to provide an overview of the financial security issues facing the three types of couples and their families, i.e., married couples, cohabiting heterosexual couples, and cohabiting same-sex couples. For simplicity's sake, married couples will be referred to as "spouses," cohabiting heterosexual unmarried couples as "cohabitors," and cohabiting same-sex couples as "partners." An overview of why married and unmarried couples are treated differently is presented. Discussion of financial security issues is divided into three sections: those which appear to favor spouses, those which appear to favor unmarried cohabitors and partners, and those relating to children.

Overview

Married persons are assumed to be interdependent upon one another while no similar inference is associated with unmarried persons (Jaff 1988). Cohabitation has some of the characteristics of marriage but is not marriage, so likewise cohabitors are sometimes treated as spouses and sometimes treated as single individuals. Gay and lesbian partners, even those who considered themselves life partners, fall outside the traditional definitions of family based on blood and marriage ties (Allen & Demo, 1995), and therefore are regarded as single individuals.

Independence, rather than interdependence, was found to characterize cohabitors' financial "style" through a tendency to maintain separate financial identities (Blumstein & Schwartz, 1983). Blumstein and Schwartz (1983) found that same-sex couples pooled income and shared financial decisions less frequently than married couples did, but more than cohabitors. The lesbian couples interviewed by DePoy and Noble (1992) indicated that sharing financial decisions symbolized their commitment to the relationship, the same conclusion reached by Blumstein and Schwartz (1983). In his study of gay, lesbian, and heterosexual couples, Kurdek (1994) found that both partners and cohabitors listed finances as one of the top issues for arguments.

Married couples have more wealth than cohabitors (Waite, 1995) and save more than never-married persons. Waite (1995) speculated that wealth accumulation is encouraged by the expectations associated with the married state.

It is a myth that cohabitors who live together "long enough" are automatically considered married by virtue of so-called common law marriage. In fact, ten states[3] have laws which prohibit heterosexual non-marital cohabitation (Seff, 1995). Only 13 states[4] continue to recognize common law marriages (Seff, 1995). Cohabitors are not afforded the same rights and privileges as spouses because to do so might be perceived as profoundly undermining the institution of marriage (Seff, 1995). However, a cohabiting heterosexual couple can "pass" as married and assume the benefits of marriage (Seff, 1995).

Cohabitors may believe they will eventually be considered married and make decisions accordingly. Partners may need to make special efforts to secure their financial security.

Married Status Favored

Many policies embrace the premise of interdependency between spouses (Table 1) and thereby give spouses preferential treatment. Intestacy and inheritance laws assume that a spouse wishes to support his or her surviving spouse and dependents even if not explicitly expressing these wishes in a will. Social Security provides a retirement, survivor and disability benefit for a dependent spouse. Survivor and spousal benefits are not granted to partners or cohabitors, although some benefits have been granted to common law spouses in states recognizing common law marriages (Seff, 1995).

The inheritance and estate tax rates for surviving spouses and direct lineage decedents are consistently lower than other relationships. Surviving partners and cohabitors are taxed at the same rate as a stranger because no assumption of dependence exists for unmarried couples no matter how long they have lived together or how financially interdependent they are (Jaff, 1988). Although having a valid will to leave property and assets to one's cohabitor or partner resolves some inheritance issues, it may not resolve all financial security issues. For example, in New York, a cooperative apartment cannot be bequeathed to anyone other than a spouse or child without the express approval of the cooperative's Board of Directors (Jaff, 1988).

The concept of economic interdependence of spouses also accounts for the ease with which spouses can insure each other's lives and their joint property. Cohabitors and partners may qualify for the so-called "family" policy for their jointly owned property, but when personal and real properties are owned individually, the cost-saving "family" policy may not be available to them. For example, if the couple rents, each may have to buy a separate renter's policy. Life insurance companies may require partners and cohabitors to prove an insurable interest in each other's lives in order to obtain life insurance. Comparable proof is not required of spouses (Stum & Dolan, 1994).

The longer a couple lives together, the more likely they will run into financial and legal decisions. When a long-term relationship breaks up, the economic claims of the former lovers, whether the couple is heterosexual or homosexual, may need to be decided by a court and may not be protected by so-called domestic laws. When spouses divorce, the assets acquired by the couple during marriage are generally considered to be "marital property" no matter whose name is on the title. Cohabitors and partners cannot expect to share each other's assets when the relationship breaks up unless they agreed beforehand to share assets (Seff, 1995).

Some laws, although few in number, do recognize and protect unmarried couples under certain circumstances (Beattie, 1991). For example, although NH does not recognize common law marriage, at the death a cohabitor if the couple has resided together for at least three years and presented themselves as a married couple, the surviving cohabitor will be considered a spouse under the state's intestacy laws and property inherited by the survivor is taxed at the spousal rate (NH RSA 457:39).

The federal Equal Credit Opportunity Act prohibits discrimination in any credit transaction on the basis of marital status. Lenders, including mortgage lenders, must, therefore, treat an unmarried couple the same as a married couple when applying for credit (Beattie 1991). Cohabitors may find it easier than partners to get joint credit because it is unlawful for creditors to inquire about marital status.

Rental housing decisions and choices may be limited for cohabitors and partners. Cohabitors cannot be discriminated against in public housing, but may face difficulties renting in the private sector. Partners have no protection from discrimination in either public housing (Hann v. Housing Authority of the City of Easton, 1989) or private-sector rental housing

Table 1

Economic Security Issues: Spouses Favored

Issue	Spouses	Cohabitors	Partners
Social Security benefits	• categorically eligible for spousal retirement & survivor benefit	• not eligible for spousal benefit, with some exceptions	• not eligible for spousal benefit
Pension benefits	• eligible for survivor benefit	• survivor benefit option not available	• survivor benefit option not available
Inheritances	• statutorily defined survivor • taxed at low "spouse" rate	• no inheritance through intestacy laws, with some exceptions • taxed at highest rate	• no inheritance through intestacy laws • taxed at highest rate
Estate taxes	• estate passes to surviving spouse tax-free	• estate must pay federal estate taxes	• estate must pay federal estate taxes
Health insurance	• benefits through spouse's health plan • employer contribution tax exempt	• benefits only if domestic partner policy includes cohabitors • employer contribution taxable income	• benefits only if domestic partner policy available • employer contribution taxable income
Life insurance	• automatically considered to have an insurable interest in spouse's life	• may have to prove insurable interest in cohabitor's life	• may have to prove insurable interest in partner's life
Property insurance	• property automatically jointly insured	• may only be able to jointly insure if jointly owned	• may only be able to jointly insure if jointly owned
Housing availability	• always considered to be "immediate family" • eligible for public housing	• may be denied rental housing • may be denied ability to buy cooperative housing • may violate lease as not "immediate family" • eligible for public housing	• may be denied rental housing • may not be able to buy cooperative housing • may violate lease as not "immediate family" • not eligible for public housing
Mortgage/credit availability	• discrimination prohibited	• discrimination prohibited	• joint mortgage may be difficult with no protection from discrimination
Family dissolution	• family court • community property and/or equitable distribution	• may be civil court depending on state • right to share of cohabitor's property tenuous	• civil court likely • no right to share of partner's property
Taxation	• married filing jointly lower tax rate	• individual higher tax rate unless "passing" as married	• individual higher tax rate

(Jaff, 1988). States' anti-discrimination laws may not protect all cohabitors (Jaff 1988). MA and MN courts have allowed rental property owners to discriminate against unmarried couples, while an AK court did not ("Alaska supreme court...," 1995). If a lease limits occupancy to a tenant's immediate family, an unmarried couple may face eviction (Beattie 1991).

In general, individuals have higher income tax rates at both the state and federal levels. Not being able to pool itemized deductions for federal income tax purposes may well result in a higher overall tax burden for the unmarried couple. Couples who live in states with state income taxes face similar tax disadvantages.

Domestic partner policies

While spouses are always eligible for insurance coverage under an employer's benefit plan, only recently have domestic partner policies begun to extend this coverage to unmarried couples. Same-sex partners may have an advantage over heterosexual cohabitors as not all domestic partner policies apply to cohabitors. The rationale is that cohabitors are choosing not to marry and could change their status at any time to qualify for benefits as spouses. Same-sex couples are prohibited from marrying and are therefore in a special category.

Domestic partner policies may require couples to meet certain criteria to prove their relationship. Similar proof is not required of married couples (Berger, 1991). Cohabitors who claim to be married generally are not required to provide proof of their status to obtain benefits, as the assumption is made that they are telling the truth (Berger, 1991).

Federal laws differentiate between spouses and domestic partners receiving benefits. Although an employer is required by law to extend health insurance coverage for the married worker and family after the worker leaves the employer, no comparable requirement exists to continue benefits for domestic partners. Moreover, any contribution an employer makes toward insurance or other benefits through a

Table 2
Economic Security Issues: Unmarried Couples Favored

Issue	Spouses	Cohabitors	Partners
Taxation	• higher taxes if using standard deduction	• lower taxes overall if both using standard deduction	• lower taxes overall if both using standard deduction
Debts	• responsible debts of the marriage, especially in community property states	• responsible for own debts and those debts obtained jointly	• responsible for own debts and those debts obtained jointly
"Necessaries"	• responsible to provide	• not responsible	• not responsible

domestic partner policy is considered taxable income by the IRS.

Unmarried Status Favored

Cohabitors and partners may experience favorable economic treatment through not being considered interdependent. Whether individual couples perceive these as advantageous would depend upon their circumstances. For example, unmarried couples have an economic advantage over spouses by not being responsible for each other's debts (Table 2). In community property states, spouses are responsible for all the debts of the marriage. In other states, both spouses are responsible for debts to provide the "necessaries" of life, and for debts where both spouses benefit (American Bar Association, 1990). Unmarried couples are responsible for only those debts that they incur as an individual or specifically incur together.

In the area of medical care, spouses face the potential for economic impoverishment from the cost of having one spouse institutionalized long-term. As neither partners nor cohabitors are responsible for each other's "necessaries," unmarried couples avoid the burden of being legally responsible for supporting an institutionalized lover, or for paying the cost of medical care during the final illness.

Based on current federal income tax laws, married couples may actually pay higher taxes than unmarried couples earning the same total income and using the standard deduction. Although individual tax rates are higher than those for spouses, combined income could push a married-couple-filing-jointly into a higher tax bracket.

Financial Security Issues Related to Children

Spouses, cohabitors and partners all have the potential of being parents of children. And parents are required to support their children. When cohabitors have mutual children, they are treated no differently than a married couple. Gays or lesbians who have biological or adopted children are the legal parents of those children. But the same-sex partner of the legal parent will have few rights, or obligations, regarding the child even if that person is considered by the child to be a parent (Table 3).

Child support may be the one area where married and unmarried persons are treated equally. Courts have ordered non-biological, non-adoptive "parents" to pay child support after a relationship has ended (e.g., Karin T. v. Michael T., 1985).

In most other areas of financial security, the key factor is legal parent status as children are considered dependent upon parents, not on other persons. Intestacy laws do not recognize "social" parents for inheritance purposes. Any inheritance through a will is taxed at the "stranger" rate rather than the undoubtedly lower direct lineage rate. A cohabiting father needs to be identified as the legal father in the way the state requires in order for children to inherit through state intestacy laws and to have inheritances taxed at the direct lineage rate (Weyrauch & Katz, 1985). A minor child would not be eligible to receive a minor's Social Security survivor or retirement benefit unless the deceased or retired partner or cohabitor was the legal parent.

Single people can adopt in all states. However, private adoption agencies may prohibit single people from adopting (Jaff 1988) or place them after married couples on waiting lists. State agencies, which do not discriminate based on marital status, may only place older children for adoption. Unmarried couples may not be able to adopt as a couple.

While homosexual individuals are not generally prohibited from adopting children,[5] the ability to form a legal relationship with a partner's child/ren is tenuous. Only in VT, NY, and MA have the states' highest courts found that the respective state adoption laws do not preclude unmarried partners from being considered together as parents (e.g., Adoption of Tammy, 1993; Dao, 1995). In eleven other states, lower courts have made similar rulings (Dao, 1995). These decisions are advantageous to the child's economic

Table 3
Economic Security Issues Related to Children.

Issue	Spouses	Cohabitors	Partners
Social Security benefits	• dependent child benefits from either parent	• dependent child benefits from either parent	• dependent child benefits from legal parent only
Inheritances	• statutorily defined survivor if parent dies intestate • taxed at low, direct lineage rate	• statutorily defined survivor if parent dies intestate • taxed at low, direct lineage rate	• statutorily defined survivor only if deceased is legal parent if parent dies intestate • taxed at low, direct lineage rate if legal parent; taxed at high, non-relative rate otherwise.
Health insurance	• coverage through policy of either parent's employer or individual "family" policy	• coverage through policy of either parent's employer • individual "family" policy may be available to cover all family members	• coverage through policy of legal parent only • individual "family" policy will cover legal parent and child only
Adoption	• always an option	• individuals may adopt • cohabitors adopting jointly may not be possible in every state	• individuals may adopt in 48 of the 50 states • only 3 states allow same-sex partners to adopt as joint parents
Child support	• parents required to support children • child support order at divorce mandatory	• parents required to support children • child support order at dissolution mandatory	• parent required to support children • former partner of parent may be ordered to pay child support

well-being. For example, if the adoptive parent dies, the child would not only be able to inherit through the state's intestacy laws if no will was left, but the inheritance would be taxed at the lower rate for family members, and the child would be able to collect Social Security as a dependent of a deceased worker.

Employer health insurance policies, and individual so-called "family" policies, will only cover the child and legal parent. If the partner who is the child's legal parent is the one without employer-sponsored health insurance, the cost of an individual policy will be high. If neither partner has employer-sponsored health insurance available, the couple would not be able to buy a "family" policy to cover them all, but each adult would have to buy a separate individual policy at higher cost.

Discussion and Conclusions

Family economists and financial practitioners (i.e., planners, counselors and educators) need to be aware of the economic security issues faced not only by married couple families, but also by unmarried couples and their families. While some heterosexual couples cohabit for a relatively short time before marrying or breaking up, others cohabit for long periods, commingling their lives into spouse-like interdependencies. Gays and lesbians, prohibited from legal marriage with their life partners, may also commingle their financial resources and decision making as symbolic of their commitment to each other. Families, no matter how they are constituted, are presumed to fulfill particular essential needs which include the creation of an economic unit to provide for the necessities of family members (Jaff 1988). Family financial practitioners and the financial management literature both must recognize the unique issues facing both cohabitors and partners, and assist them in making informed decisions as an economic family unit interested in achieving financial security over the life course.

The similarities and difference among the three types of couples are not easily discovered. There has been very little research on the financial issues of unmarried couples. Information comes from anecdotes and legal journals. Individual states may have rules which apply to unmarried couples in vary narrow circumstances. Family economists and practitioners will need to explore the laws and court decisions of their states to determine where the variations exist.

A few of these problems can be mitigated through certain legal documents. A living-together agreement (Seff, 1995) provides a framework for who owns what and how property will be divided if the relationship ends. A will directs the distribution of property in the way each person desires. One way around the life insurance problem is for an unmarried person to insure his or her own life and name his or her partner or cohabitor as beneficiary (Seff, 1995). These remedies, however, offer only a limited range of security.

Unmarried couples, like single-parent families, should not be treated as deficient. Families of same-sex partners and heterosexual cohabitors are not "broken" or deviant, simply different. Family economists may need to make a conscious effort to alter their own assumptions regarding "family" to facilitate the inclusion of unmarried couples in their paradigms.

While talking about these issues does nothing to resolve them, it does alert people to the differences in financial security whether they are currently part of an unmarried couple or contemplating it. The discussion of family economic well-being should encompass both same-sex families and cohabiting heterosexual families on the principle of equality, concern, and respect for all types of families.

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Endnotes

1. Department of Family Studies.
2. Department of Family Social Science.
3. ID, FL, IL, MI, MS, NM, NC, ND, VA and WV.
4. AL, CO, GA, ID, IA, KS, MT, OH, OK, PA, RI, SC, TX and DC.
5. NH and FL have adoption prohibitions, and NH alone enforces the statute (RSA 170-B:4). Conversely, NY specifically prohibits excluding potential adoptive parents solely on the basis of homosexual orientation ("Homosexual parenting...," 1989).

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Who gets it right?
Consumer Experiences with Mandatory Labeling of Dairy Products containing rBST

This paper examines the factors that influence a consumer's probability of noticing rBST labels on dairy products and the probability of obtaining the correct information from the labels. Empirical results based on survey data suggest that gender, age, urbanization and environmental concerns affect both the probability of noticing and obtaining the correct information from labels. The latter probability is also affected by income, town size, and source of information.

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Introduction and Background

The Vermont state law that mandated the labeling of dairy products produced with recombinant Bovine Somatotropin (rBST), provides an excellent test case of the ability of consumers to obtain proper information from a label and the ability of legislation to provide consumers with the information to make knowledegable purchasing choices.

rBST is a genetically engineered version of a naturally occurring hormone in cows. Its main benefits are that it increases the production of milk per cow, and therefore the efficiency with which feed is used. Proponents claim that it is an effective tool that should be at the disposal of dairy herd managers. In addition, the U.S. Food and Drug Administration (FDA), whose mandate is to ensure that such products offered on the market are safe and effective, determined that milk produced with rBST and milk from untreated cows are indistinguishable, and that therefore no health risk exists. However, many individuals have lingering concerns about the long-term health effects of rBST milk, as well as rBST's possible detrimental economic effect on the state's dairy industry. These concerns led to demand for a labeling law on milk and dairy products produced with rBST.

It was the intent of the labeling law to place the burden of labeling upon those who do use the product as opposed to those who do not, so that the labeling law does not incur costs to those who do not use rBST, (Moyer, 1995). However, in practice, the burden of labeling fell upon the retailer, (Griffin, 1996). The law required all products produced with rBST to be labeled with either a blue dot on the package, a blue overlay over the product's unit price marker, or to be listed on a sign posted in the store that indicates which products were produced with rBST. No description of the meaning of the label was required on the label itself. Therefore, to understand the label consumers had to make an extra effort beyond simply noticing the label in order to obtain the information.

The law was immediately challenged in court by the International Dairy Foods Association and the Grocery Manufacturers of America, who argued that the law discriminates against milk made with rBST and that it implied rBST was unsafe despite the FDA's ruling. The law was originally upheld by Federal Appeals Judge Murtha in November 1995; following this ruling, the law was implemented and continued until its suspension following the Appeals Court decision in August 1996.

Descriptive and anecdotal evidence imply that consumers didn't change their behavior or just didn't care about the label (Ring, 1996; Wang et al., 1996). And, despite the fact that the law was hailed as a victory to the consumer's right to information, in practice it failed to provide a majority of Vermonters with the needed information to make purchasing decisions about dairy products (Wang et al., 1996). This study examines the factors that influence the probabilities that an individual notices and obtains the correct information from the rBST label.

Literature Review

The literature has little to say about who obtains the correct information from food labels. Research has focused on the Nutrition Labeling and Education

124

Act of 1990 (NLEA) (Burton & Biswas, 1993; Jensen & Kesavan, 1993; Navder, 1993; Padberg, 1992; Wang, Fletcher & Carley, 1995). Mueller (1991) found that labels are a consumer's most important source of nutrition information, with 66% of consumers indicating that they used them. Only 24% obtained information from television or magazines. Higher income consumers have been found to utilize nutrition and more label readers are women and/or health conscious (Burton & Biswas, 1993; Mueller, 1991; Wang et al., 1996). Educational attainment is also associated with label usage (Bass, 1991; Moorman, 1990). Wang et al. (1996) found that consumers in the Northeast are less likely to use nutrition labels. The effect of age on label use is inconclusive (Burton & Biswas, 1993; Mueller, 1991; Wang, Halbrendt, Kolodinsky & Schmidt, 1996).

Douthitt (1991) explored the issue of biotechnology and mandatory product labeling for dairy products. The study focused on risk perceptions of food-related biotechnologies (Grobe et al., 1996a; 1996b; 1996c). They conclude that consumers' overestimation of the degree of risk associated with rBST's safety may reflect the loss in consumer's confidence in the ability of regulators to protect them in the market place. Grobe, Douthitt and Zapeda (1996a) also indicate that perceptions of risk associated with rBST have not mitigated over time, as is the usual case with new technologies. They found that 77% of Wisconsin households would prefer milk from cows not treated with rBST if they could obtain the information from a label.

A similar study conducted in Vermont indicated that 90% of consumers agree with the statement "dairy products containing milk produced from cows treated with rBST should be labeled." Wang et al. (1996) reported that 33.3% of consumers always read labels when they purchase dairy products and 48% of those said they noticed a change in the way these products were labeled during 1995. Only about 21% of individuals who noticed the change in label obtained the correct information from the label that "the product may or may not contain milk from rBST treated cows." However, since 16% responded incorrectly that the milk "definitely contains rBST," about 39% of consumers obtained correct information by default.

The literature that specifically addresses issues of biotechnology and labeling consider *whether* or not a product should be labeled. Studies about the NLEA give indications of variables associated with the *use* of food labels, but not necessarily the *correctness* of information gleaned from labels. Jacoby et al. (1977) found that although the vast majority of consumers want information on labels, most consumers do not obtain the correct information from labels. The literature clearly indicates that consumers want to be aware of food products produced using biotechnologies. However, it is silent about whether these labels provide the correct information to these consumers. This study estimates the impact of variables found to be associated with label use and goes on to estimate the probability that a consumer will obtain the correct information from the label.

Methodology

Empirical Model. The method used in this study is based on consumer theory and previous studies on consumer demand for and utilization of information.

The probability that an individual obtains the correct information from a dairy product with one of the required labels informing them the product may contain rBST is written:

$$\log \frac{\text{Probability (yes)}}{1-\text{Probability (yes)}} = \beta_0 + \beta_1 Z_1 + \ldots\ldots + \beta_k Z_k \qquad (1)$$

where the Z's represent the attributes of individuals that influence whether or not an individual obtains the correct information (there are k attributes) and Probability (yes) represents the probability that an individual obtains the correct information. Equation (1) can be estimated using the logit regression procedure, but the fact that only individuals who have noticed the new labels can identify whether they obtain correct information from that label creates a situation of sample selection bias. Therefore, this analysis uses Heckman's procedure, using a probit regression with member status (if the individual has noticed the new labels) as the dependent variable. The estimated inverse Mills ratio is then included as an independent variable in equation (1).

Data Source and Variable Definition

A random sample of Vermont households with at least one registered voter was contacted by telephone in December of 1995 as part of the annual Vermonter Opinion Poll. This poll collects information of a variety of issues of interest to policy makers in the state. 702 respondents completed the survey. Table 1 provides summary statistics. A comparison with the state's averages from the 1990 U.S. Census of Population and Housing suggests that the random sample is representative of the Vermont population in terms of major socio-demographic characteristics.

The portion of the survey on rBST related issues began with the following statement about rBST and federal regulation:

> Bovine somatropin (also known as rBST or bGH) is a naturally occurring hormone in cows that stimulates milk production.

Respondents were asked a series of questions about their attitudes and behaviors toward milk and processed dairy products produced using rBST and their use of the mandatory labels.

Based on previous research discussed in the literature review (Bass, 1991; Burton & Biswas, 1993; Moorman, 1990; Mueller, 1991; Wang, Halbrendt, Kolodinsky & Schmidt, 1996), we include variables representing **gender, educational attainment, income, where a consumer obtains label information** and **age** in our equations. Gender is a dummy variable with female as the omitted category. Educational attainment is measured as a dummy variable, with the omitted category being having less than a high school education. Income is measured using two dummy variables: one indicates whether a respondent's family income was less than $15,000 in 1995, and the other indicates whether a respondent's family income was greater than $45,000 in 1995. These variables were used because the data for income were collected as a categorical variable representing quartlies, not a continuous one In preliminary analysis no new information was gained from including all categories. Two variables represent where individuals obtain information about the rBST labels: the first is a dummy variable that indicates whether information was obtained via television, the other whether information was obtained from the newspaper. Because individuals could obtain information from more than one source, there is no omitted category. Age is a continuous variable representing the age of the respondent.

We also include variables representing a consumer's **willingness to pay for measures to protect natural resources** and **to maintain the state's agricultural base**, and a variable representing respondent perceptions of **how well the state is doing on environmental issues**. These are all measured using dummy variables. The omitted category on the two willingness to pay variables include respondents NOT willing to pay for natural resources or agricultural initiatives at a state level. The omitted category on the grading of environmental efforts include respondents who rated the initiatives less than grade "A." The inclusion of these variables is justified by the facts that 58% of Vermonters are willing to pay up to 10 cents more per gallon-for rBST-free milk (Wang et al., 1996), and that use of rBST maybe harmful both to the environment and to the dairy industry. Rayburn (1993), in a comparison of the ecological effects of confinement and rBST use versus rotational grazing, found the model using rBST led to increased use of machinery, pesticides and increased soil erosion and manure contaminations as well as other ecological hazards. Thus, there may be a connection between a consumer's view of the environment and their awareness and understanding of labels associated with rBST use. Kinnucan et al. (1990) and Barnes and Nowack (1990) found that larger farms with greater numbers of cows are more likely to adopt rBST. In addition, mid-sized farms have decreased in number over the past decade (Center for Rural Studies, 1995). Therefore, consumers may wish to buy rBST-free milk, even at a premium, in order to support an agricultural technology that is more environmentally friendly and is less likely to accelerate the loss in number of farms in the state. A variable representing consumer ratings of how well the state does in the environmental arena is also included. Taken together, inclusion of variables representing consumer views on natural resources and agriculture gives an indication of whether or not interest in specifics related to rBST in other arenas impacts on consumers' awareness and understanding of the labels.

Finally, three variables representing **where a respondent resides** are included in the estimation. These are three dummy variables that measure (1) whether an individual resides in a rural county, (2) whether that county is adjacent to a metropolitan county, and (3) whether the town a respondent lives in has fewer than 2,500 inhabitants. These variables are included to ascertain the degree to which the rBST issue is centered in rural towns and counties with many farms, or if the issue is more widespread. The symbols (+) and (-) in Table 1 indicate the expected direction of effect of each variable.

Results

Table 1 provides results of the logit estimation of both the log odds of noticing the rBST label and the log odds of obtaining the correct information from the label. Four variables are significant at least at the 0.10 level in the equation used to estimate whether or not a respondent notices the rBST label. **Males** are less likely to notice the label, a result that coincides with findings of other studies that examined nutrition labeling in general and were expected (Burton & Biswas, 1993; Mueller, 1991; Wang, Fletcher & Carley, 1995). **Older individuals** are less likely to notice the label. While previous research has been inconclusive as to the effect of age on noticing nutrition labels (Burton & Biswas, 1993; Mueller, 1991; Wang, Halbrendt, Kolodinsky & Schmidt, 1996), the result was expected in this case of rBST labeling. Individuals willing to invest in natural resource protection were more likely to notice the label. This finding corresponds to results found by Rayburn (1993). Interestingly, although previous research has linked rBST mainly to the agricultural economy, making it a rural issue (Kalter, Milligan, Lesser, Magrath & Bauman, 1985; Preston, McGuirk & Jones, 1991; Rayburn, 1993), individuals residing in rural areas were less likely to notice the rBST label, according to the results of this study. Contrary to previous research on labels in general, the effect of income, both higher or lower, was insignificant.

Many independent variables significantly affected the receipt of the correct information from the rBST labels. Being a woman and having a willingness to pay to protect the environment both increased the likelihood of obtaining the correct information. Having a higher income, being older, living in a more rural area, indicating a willingness to pay to support agriculture, and receiving information from newspapers all decreased the likelihood of obtaining the correct information. The literature has had little to say about who receives correct information from food labels. Our hypotheses were formed on the basis of literature that examined risk associated with food related biotechnologies. The logical next step was to hypothesize that the variables connected with concern would lead those individuals to seek out information about the products they purchase in the marketplace. For the most part, with the exceptions of the signs on the variable representing a willingness to pay to support agriculture and being in a higher income group, the expected directions of effects were borne out by the estimation. The coefficient on lambda, the inverse of the Mill's Ratio, was significant, indicating that there is sample selection bias in the sample used.

Table 1
Parameter Estimates

Legend: A=Name and Definition; B=Mean/SD; C=Expected effect, Notice; D=Parameter estimates, Notice; E=Expected effect, Right; F=Parameter estimates, Right

A		B	C	D	E	F
LOWINC	1=low income	.17 (.37)	-	.29 (.16)	-	1.60 (1.16)
HIGHINC	1=high income	.38 (.49)	+	-.79-02 (.13)	+	-.41** (.20)
GENDER	1= male	.46 (.50)	-	-.35*** (.11)	-	-2.43* (1.40)
EDHS2	1=>HS ed	.79 (1.00)	+	-.66-01 (.12)	+	-.41 (.34)
AGE	age	46.09 (16.98)	-	-.9E-02*** (.35E-02)	-	-.78E-01** (.40E-01)
NONADJ	1=nonmetro/ adjacent county	.24 (.43)	?	-.27* (.12)	?	-1.98* (1.11)
RURAL	1=town pop<2500	.32 (.46)	?	.52E-01 (.131)	?	.68** (.32)
NONNON	1=nonmetro/ nonadjacent county	.33 (.47)	?	-.22-01 (.148)	?	-.51** (.25)
GRADEA	1=gave A grade on environment	.35 (.48)	+	-.37-01 (.11)	+	-.18 (.24)
PAYAG	1=will pay to support ag	.55 (.50)	+	-.58E-01 (.12)	+	-.55* (.30)
PAYNR	1=will pay to support Nat Res	.65 (.48)	+	.27** (.12)	+	2.03* (1.14)
INFTV	1=got info from TV	.78 (.41)	-	-.10E-01 (.13)		-.21E-01 (.21)
INMAG	1=got info from print	.82 (.38)	-	-.69-01 (.15)	-	-.64* (.36)
LAMDA		n/a		n/a		10.34* (6.45)
NOTICE	1=noticed the label	.50 (.50)		n/a		n/a
RIGHT	1= got label right	.43 (.50)		n/a		n/a
N				545		279
CHI SQ				33.08***		23.83***

Note: * denotes sig >.10; ** denotes sig. >.05; *** denotes sig. >.01

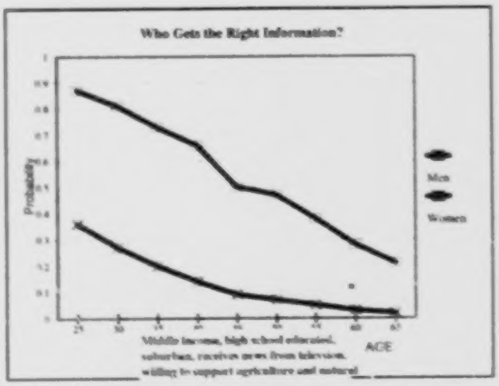

Figure 1. Differences in Obtaining The Correct Information From Labeled Dairy Products

To show how the likelihood of noticing the label and receiving the correct information from the label change as characteristics describing the respondents change, we calculated probabilities using various composite individuals. At the means of the data, the model estimated that the probability of noticing the

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label is about 50%, but the probability of obtaining the correct information from the label is only 31%. If we examine a woman, with at least a high school education, aged 46, living an in urban area who will pay to support agriculture and natural resources and received her information NOT from television or the newspapers, then the probability of getting the correct information from the label is 96%. At the other extreme, we have a male with at least a high school education, aged 46, living in a rural area, who will not pay to support agriculture and natural resources and received his information from television or the newspapers. His probability of getting the correct information from the label is only 3%. Figure 1 outlines how the probability of obtaining the correct information changes as an individual ages, for men and women with the following characteristics: not high or low income, has a high school education, lives in a suburban area, gets information from television and newspapers, and is willing to pay to support natural resources and agriculture. These characteristics are typical for a Vermont respondent. The probabilities for men and women vary greatly: as one adds age into the analysis, we see a large decline in the probability of obtaining the correct information from the label.

Discussion

This study examined the factors that influence whether a consumer obtained the correct information from required labeling of dairy products that may contain rBST in the State of Vermont. There is no doubt that the labeling law was regarded as a failure on many fronts: less than 50% of individuals noticed the labels, less than 50% of consumers obtained the correct information if they did notice it, and the law was repealed after less than one year of being in effect. This study highlights some of the factors associated with individuals who both noticed the labels and obtained the correct information from those labels. Given that there was no actual information place on the label, it is of little surprise that the factors that affected noticing and understanding the labels manifested themselves as they did in this study. Previous research on label use indicates that women of younger age would be more likely to use the labels. Our results with regard to these variables is of no surprise.

The on-going desire of consumers for a measure to provide them information about whether a milk product was produced with rBST indicates that the debate is not dead with the repeal of the mandatory labeling law. Editorials in the local newspaper have called on the legislature to pass another measure, this time a voluntary labeling law that allows producers who do not use rBST to indicate this on a label. Given the difficulties that consumers experience in obtaining correct information, the consideration of this research is important if future difficulties are to be averted.

Gender is one of the most influential variables in the analysis: women are more likely to get the right information. Age, location, and information sources are important as well. Older people, residents in more rural areas and those who obtain their information from television or newspapers are less likely to receive the correct information. Therefore, any education measures that the state develops to teach individuals about the meaning of rBST labels should be planned and implemented with specific provisions of reaching people like those described above.

An important question that must be addressed is that of who ought to implement or pay for these education initiatives. One possible answer is the agents of the Cooperative State Research Education and Extension Service. Those agents that work primarily with rural older males are in a position to reach a particularly under-informed segment of the population. Their mandate in doing so comes from the fact that this research comes from a Land Grant University (LGU), and that extension's duty is to disseminate knowledge generated at LGUs. It is clearly in their domain to do so. Furthermore, given the potential detrimental effects outlined in the literature of rBST use upon consumers, the dairy industry and particularly on the number of dairy farms in the state, extension has a duty to inform consumers how to determine whether a product was made using rBST and to allow the consumer to make an informed purchase decision based on their own values and personal ethics..

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Fresh Vegetable Prices: Do Supermarkets Raise and Lower Them the Same Way?

This paper focuses on the transmission of prices from the wholesale to retail level for two selected fresh produce commodities: snap beans and sweet corn. The model distinguishes between adjustments to price increases versus decreases and allows for the estimation of different lag periods. Results suggest the retailer passes on increases to the same extent as decreases but transmits the increases faster.

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Retail level price changes are common occurrences. Vertical price relationships refer to price transmissions between products at various stages of the distribution system from producers to consumers. Two considerations in an examination of price increases and decreases are the speed with which they occur and the amounts of the increases versus decreases. The former pertains to the duration of the adjustment on the part of retailers to changes in costs. Do retailers lower prices as quickly as they raise them as suppliers lower and raise prices? If there is a difference, then there is asymmetry in the price adjustment process between the vertical components of the distribution system. The latter refers to whether retailers more than pass-on price increases, whereas price decreases are not completely transferred to consumers.

These issues have been studied by agricultural economists, who have developed analytical approaches to evaluate vertical price transmissions (Gardner, 1975; Hansmire and Willett, 1992; Holloway, 1991; Houck, 1977; Kinnucan and Forker, 1987; Pick, Karrenbrock, and Carman, 1990; Powers, 1994; Ward, 1982; Ward and Zep, 1981). The present paper applies the methodology to two food items that have not been studied previously. It also provides a consumer perspective on the results.

Food items are well suited for price transmission modeling. Many are homogeneous, and for some there are no brands (e.g. fresh produce). Present interest centers on an empirical description of price changes, as opposed to the development and testing of a theory of price transmissions. Whole fresh vegetables are essentially unaltered before they reach consumers. As a result, a price adjustment at the wholesale/broker level should have a more direct effect on retail prices, as opposed to more highly processed foods.

A major weakness of past studies of price movements in the vegetable industry has been the use of average monthly prices to assess how adjustments occur (with the exception of Powers, 1994, who used weekly observations). Weekly data are more consistent with the planning horizons of consumers and food retailers. With the introduction of retail scan data technology, weekly price data can be used to track prices.

A Vertical Price Linkage Model

The flow of product from the farm gate to the consumer can be visualized as a stream, so upstream and downstream relationships exist. By examining relationships between exchange points in the distribution stream, vertical price linkages can be estimated and used to evaluate how downstream prices move in relation to upstream changes. The direction of causality is from the wholesale/broker level to supermarkets based upon other research (Heien, 1980; Kinnucan and Forker, 1987; Pick, Karrenbrock, and Carman, 1990; Ward, 1982). Causality tests were not used due to this extant literature and to some inconclusive aspects of the tests (Pindyck and Rubinfeld, 1991; Zellner, 1988). Hansmire and Willett (1992) found rising wholesale prices of apples strongly affected retail prices but falling wholesale prices exhibited little influence. Ward and Zepp (1981) concluded that price lags seldom exceeded one to two months due to the perishable nature of fresh produce.

The approach taken here is based on Powers' (1994) analytical model. Firms are assumed to be competitive and fresh vegetables are provided by supermarkets combining the wholesale commodities with marketing inputs in fixed proportions. The former is supported by results such as Holloway (1991) and the latter by there being few possibilities for substituting inputs in the short run and the technology for distributing and marketing being fixed. Fees for cooling, packing, and selling produce are consistent with constant marginal cost (Powers, 1994). Given this setting the price relationship for the ith commodity is

$$R_i = a_{1,i}W_i + a_{2,i}M_i \qquad (1)$$

where: R = retail price; W = wholesale price; and M = marketing costs.

The number of units of the ith vegetable at the wholesale level needed to have one unit at the retail level is represented by $a_{1,i}$. Because fresh vegetables are perishable, $a_{1,i}>1$. It also represents the amount the retail price changes based on a one unit change in the wholesale price.

Houck (1977) proposed a way of introducing an asymmetric price adjustment process, shown as equation (2). $RP_{i,t}$ represents the change in the ith retail level price in period t from the respective base period retail level price, $R_{i,0}$. $SR_{i,k}$ ($SF_{i,k}$) is the ith price change whenever the current price is higher (lower) than the previous period's price. Similarly, rising and falling price changes can be obtained for transportation costs (TC).

$$RP_{i,t} = \sum_{j=0}^{r} \delta_{1,i,t-j} SR_{i,t-j} + \sum_{j=0}^{f} \delta_{2,i,t-j} SF_{i,t-j} \qquad (2)$$
$$+ \delta_{3,i} TCR_{i,t} + \delta_{4,i} TCF_{i,t} + e_{i,t}$$

where: $RP_{i,t} = R_{i,t} - R_{i,0}$;

$SR_{i,t} = \sum_{k=0}^{t} \Delta S_{i,k}$;

$\Delta s_{i,k} = S_{i,k} - S_{i,k-1}$, if $S_{i,k} > S_{i,k-1}$, 0 otherwise;

$SF_{i,t} = \sum_{k=0}^{t} \Delta S_{i,k}$;

$\Delta s_{i,k} = S_{i,k} - S_{i,k-1}$, if $S_{i,k} < S_{i,k-1}$, 0 otherwise;

$TCR_{i,t} = \sum_{k=0}^{t} \Delta TC_{i,k}$;

$\Delta TC_{i,k} = TC_{i,k} - TC_{i,k-1}$ if $TC_{i,k} < TC_{i,k-1}$, 0 otherwise;

$TCF_{i,t} = \sum_{k=0}^{t} \Delta TC_{i,k}$;

$\Delta TCF_{i,k} = TC_{i,k} - TC_{i,k-1}$ if $TC_{i,k} > TC_{i,k-1}$, 0 otherwise;

r = lag length for rising prices; and

f = lag length for falling prices.

Transportation costs have been included in other studies of vertical price transmission. However, they were not used here. This was based on the distribution system of the retailer supplying the scan data. Smaller chains and independents typically use third party suppliers, whereas this chain purchases fresh produce from brokers and wholesalers in various locations, including those used in the present study. Fresh produce transportation is part of the chain's distribution system, so transportation costs are fixed in the sense of no seasonal variation because warehouses, trucks, and drivers are part of the overhead. Furthermore, local growers do not deliver directly to this chain's outlets.

Within this framework, the sum of the $\delta_{1,i,t-j}$'s and $\delta_{2,i,t-j}$'s represent the price transmission process. Should the sums be equal to 1, then wholesale level prices are transmitted exactly to the retail level. The lengths of time required for the adjustments are reflected in r and f, and if they are equal, then the transmission speeds are the same.

Data

Snap beans and sweet corn were selected for study. Price data for wholesale markets were acquired from the Market News Service (U. S. Department of Agriculture, 1988-93) for four markets considered important to supermarkets operating in the local area where the scan data, described below, were generated. A reason for using four terminal markets is the chain purchases fresh produce throughout the country, and it is not clear which market has the greatest influence on local retail prices. Terminal market prices are also considered to reflect exchange prices among food distributors and brokers who are not located at the specific sites. Furthermore, the retailer could switch its buys among the locations depending on price differences.

Weekly retail prices were obtained from five supermarkets located in a metropolitan area in the Southeast that are part of the same multiregional chain. Prices are for seven day periods beginning Sunday and ending Saturday. Because vegetables are sold in different quantities at the retail and wholesale levels, the retail prices were adjusted to per carton values to reflect the prices charged for wholesale quantities (U. S. Department of Agriculture Statistical Bulletin 616). The scan data are accurate reflections of retail prices in

Table 1
Descriptive Statistics and Correlations

	Atlanta	Baltimore	Chicago	Cincinnati	Retail
Snap Beans					
Mean (dollars)	14.45	14.04	16.90	15.29	27.75
Range (dollars)	7.3-28	5-32.5	7.5-55.5	7.3-44.8	3.8-56.1
Coef. Var.	.30	.41	.41	.34	.25
Sweet Corn					
Mean (dollars)	9.82	10.24	11.66	11.09	18.78
Range (dollars)	5.5-18.3	4.3-20	3.5-22.5	3.5-27.5	5.7-73.5
Coef. Var.	.29	.31	.35	.35	.33
			Correlations		
Snap Beans					
Atlanta	1.00				
Baltimore	.84	1.00			
Chicago	.87	.84	1.00		
Cincinnati	.91	.89	.90	1.00	
Retail	.48	.40	.60	.54	1.00
Sweet Corn					
Atlanta	1.00				
Baltimore	.88	1.00			
Chicago	.86	.88	1.00		
Cincinnati	.91	.91	.93	1.00	
Retail	.53	.52	.50	.53	1.00

the area because the chain controls the largest market share in that location.

Some descriptive statistics and price correlations between the wholesale and retail levels are provided in Table 1. Baltimore had the lowest mean snap bean wholesale price. Atlanta had the lowest mean sweet corn price. Mean retail prices ranged from $4 to $56 per bushel carton for snap beans and from $6 to $74 for sweet corn. Mean retail prices were $27.75 and $18.78, respectively. Coefficients of variation indicated high relative variability in snap bean wholesale prices vis-a-vis the supermarket, whereas those for sweet corn suggest more comparable variability of prices among the markets.

Price correlations are always higher between the wholesale markets than between the wholesale and retail levels. This was expected. Information spreads quickly among participants in wholesale markets. Also, several additional factors affect retail prices, such as competition and labor costs. The retail-wholesale correlations also suggest that the retailer may purchase snap beans and sweet corn in a particular market depending on its price relative to the other locations.

Initial estimates of equation (2) were obtained using Powers' methodology which entailed setting r and f at seven weeks. The last lag was deleted if its p-value was greater than .20, and the equation was re-estimated. Lags were increased if the p value was less than .20. These iterations continued until the longest significant lag period was found. Results were inconsistent with other fresh produce studies cited above. More specifically, the duration of the adjustments seemed very long for highly perishable products (e.g., eight weeks or more) or the amount of the transmission was several orders of magnitude (e.g., five times the wholesale increase or decrease).

Powers noted that results are sensitive to the initial values. Consequently, mean values for each wholesale market were used instead of the more arbitrary observed initial price. An interpretation is that a retailer is reacting more to price changes relative to an average price, as opposed to the value at the start of the time series.

Estimates of equation (2) are presented in

Table 2
Estimated Sums of the δs and Overall Fits.

	Snap Beans			Sweet Corn		
	Increases	Decreases	R^2	Increases	Decreases	R^2
Atlanta	1.99[a]	1.78[a]	.13	2.45[a]	1.41[a]	.12
Baltimore	1.04[a]	.89[a]	.09	3.43[a]	2.47[a]	.18
Chicago	2.14[a]	1.70[a]	.31	2.92	1.83	.18
Cincinnati	1.64[a]	1.58[a]	.11	3.18[a]	2.09[a]	.18

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[a] Denotes a pair of sums for a city are not significantly different at the .01 level.

Table 2. Durbin-Watson statistics are not reported due to the lag structure of the price changes. Although the R^2 values are low, the F statistics (not reported) were significant. These results are not surprising because other factors enter into the chain's pricing decisions, such as competitive environment, other costs, and outlet supplies coming from all four markets over the time period.

Notice that for each wholesale market for the two commodities, the sum of the δs is greater than one with only one exception. The exception is for Baltimore snap beans price decreases. Aside from price decreases in Baltimore, the sums of the δs are greater than one, suggesting the chain more than transmits wholesale changes. All the sums of the δs estimates for price increases are greater than those for decreases. However, except for Chicago sweet corn prices, the cumulative effects of the increases versus the decreases are not significantly different. This suggests that for the chain's outlets in this geographic area there does not appear to be asymmetry in price adjustments.

Examination of significant estimated adjustment lag periods, displayed in Table 3, provide additional insight into the pricing behavior. In six of the eight instances, the retailer used the following week (one week lag) to begin passing on price increases, but in four linkage situations, the decreases began in the second, third, or fourth week. Furthermore, price increases seem to be completed sooner than price decreases. This suggests that, although there may be no evidence of differences in the amounts of the adjustments with respect to increases versus decreases, the chain may be somewhat slower in passing the decreases along to consumers.

Summary

This paper has illustrated the use of nonreversible functions to analyze retail food pricing behavior based on wholesale price changes. The model allows for comparisons of the amount of price increases and decreases that are transmitted from the wholesale to the retail level and the duration of the adjustment period. Scan data from a supermarket chain for snap beans and sweet corn and their corresponding wholesale level prices from four terminal markets were used to estimate the price transmission equation. Results suggest that 1)the retailer more than passed on price increases and decreases, 2) there was no pattern of significant differences in the amounts transmitted in response to price increases and decreases, 3) there did appear to be a slower adjustment process to price decreases as opposed to price increases, and 4) retailers may be following a strategy of increasing or decreasing the retail price relative to an average level, which may reflect a decision to let unit profits vary from week to week when the wholesale price is moving within a certain price range.

Table 3
Significant Lag Periods for Increasing and Decreasing Prices.

	Snap Beans		Sweet Corn	
	Increases	Decreases	Increases	Decreases
Atlanta	1,2,3,4	1,2,3,5	2,4	4,5
Baltimore	1,2	3,4,5	1,2,3,4	1,2,5
Chicago	1,2,3,5	2,3,4,5	1,2,3,4	2,4,5
Cincinnati	2,3,4,5	1,2,3,5	1,2,3,4	1,3,5

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The Effects of Consumer Beliefs on Responses to Pesticide Residue Concerns: Implications for Food Safety Policy

Using an ordered bivariate probit model, impacts of consumer beliefs about pesticide regulations, and in sources of pesticide residue information, on responses to perceived pesticide residue risks are analyzed. Policy implications are drawn emphasizing education of consumers about existing regulations and accuracy of government information. The importance of providing an integrated view of pesticide risks by various groups associated with the food processing system is also discussed.

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Consumers demand food items that are nutritious, fully flavored, cosmetically clean, convenient to prepare, and have year round availability. For decades, bringing together this diverse set of food attributes, and providing an abundant supply of food products has meant that agricultural products must be treated with pesticides. However, along with this necessity, society has also expressed a growing concern about health risks associated with pesticide residues. The recent enactment of the 1996 Food Quality Protection Act which deleted the Delaney Clause, and added a host of new pesticide related food safety provisions is a testimony to the fact that the issue is very much alive today (Waterfield, 1996).

In a study on grapefruits, Buzby *et al.* (1995) show that the benefits of a ban on pesticide use, measured in terms of willingness to pay (WTP), outweigh the costs of a ban stemming from increased post-harvest losses. However, consumers seem to make their decisions without full information about the health risks associated with pesticide residues (van Ravenswaay and Wohl, 1995). Wohl *et al.* (1995) show that ambiguity about health risks associated with pesticide residues is a factor affecting consumers' WTP for reduced pesticides in food. More importantly, consumers' assessments of the risks they face, and the adequacy of safety measures often diverge significantly from that of scientists. A study by Chipman *et al.* (1995) reported that only 31 percent of the respondents correctly identified the level at which pesticide residues were considered legally safe. About 36 percent of respondents mistakenly believed that food items must be totally free of pesticides to be legally safe. This lack of proper information, coupled with consumers' own lack of control over pesticide residues in food items is likely to affect their WTP for safety measures and their food consumption habits.

In this paper, the issue of the importance of accurate information about the occurrence and regulation of pesticide residue levels is addressed. A survey conducted in 1992 by Misra, Fletcher and Huang (1995) is used for this purpose. We ascertained whether or not perceptions about pesticide regulations and government reported pesticide residue levels affect consumers' responses concerning the importance of providing additional food safety measures at the cost of higher food prices. These responses, measured on an ordinal importance scale, can be interpreted as indicating the degree to which consumers will be willing to pay for additional pesticide safety measures through higher food prices. We will refer to this measure as "propensity to be willing to pay (PWTP)" for the remainder of the paper, keeping in mind that this usage of WTP is very different from the typical usage in the contingent valuation literature. In addition to examining impacts on PWTP, we also examine whether or not perceptions about pesticide regulations and government reported pesticide residue levels affect consumers' propensity to have altered their food consumption habits, referred to from this point forward as PTA.

These two response measures, PWTP and PTA, represent very important potential consumer behaviors in response to concerns about pesticide residues and their regulation. Lack of proper information about pesticide residues and regulations may strengthen consumers' PWTP, and/or cause them to alter their food consumption habits. If this is the case, then policy prescriptions may be more usefully targeted at educating and informing consumers about existing pesticide regulations and risks rather than wasting scarce resources on additional food safety measures of uncertain necessity. The paper is organized as follows: In section one, the importance of measuring PWTP and PTA is discussed. In section two, measurement of consumer beliefs about government regulations and pesticide risks is discussed and ambiguity, information and misinformation variables are defined. Hypotheses are presented about the probable effects of different belief structures on consumers' PWTP and PTA. In section three, relevant data is analyzed, and a bivariate ordered probit model is estimated to test our hypotheses. Finally, in section four, we summarize and suggest policy implications.

Consumer Beliefs and Impacts on PWTP and PTA

We hypothesize that consumer beliefs about government approvals of pesticides, and government reported levels of pesticide residues in foods are important determinants of consumers' behavioral responses to perceived pesticide risks. It is a fact that pesticides have to be approved by the Environmental Protection Agency (EPA) before they are sold in the United States (US). It is also a fact that Food and Drug Administration (FDA) has reported that occurrences of pesticide residues above legal levels in our foods generally appear to be minimal. However, many consumers are either unaware of these facts or believe them to be false. We hypothesize that these consumers will have higher levels of concern about food safety, and will thus feel it is more important to take additional food safety measures, even at the cost of higher food prices. In addition, consumers may have altered their food consumption habits due to a lack of information or belief about pesticide regulations and residue levels.

Consumers who hold false beliefs about pesticide regulations and occurrences of pesticide residues can be characterized as being misinformed about these issues. Consumers who are uninformed about pesticide regulations and occurrences of pesticide residues can be characterized as being ambiguous about these issues. If these consumers act based on this misinformation or ambiguity, they may make non-optimal choices relative to correctly and fully informed consumers. These consumers may benefit from educational efforts to correct false information and provide missing information. We examine the hypothesis that misinformation and ambiguity increase both PWTP and PTA. We expect a positive impact given the fact that informed consumers will know that pesticides must be approved by EPA and that FDA reported occurrences of residues on food are very infrequent.

Consumers' PWTP and PTA may also depend on the amount of confidence they place in the opinions and information provided by manufacturers, marketers, scientists, and administrators who are associated with pesticide production, distribution, research and regulation. We construct indices of confidence in various vectors of information sources to investigate their impacts on PWTP and PTA. Theory does not provide any clear guidelines as to the direction of the impacts of confidence in different information sources. Thus, whether confidence in the opinions of particular groups increases or decreases PWTP and PTA will have to be determined empirically. We also hypothesize that households with young children will have higher PWTP and PTA.

In the past, in similar types of studies, researchers have used univariate ordered probit models (e.g., Pierre *et al.*, 1991). However, when two or more equations are estimated, one needs to take into account the correlation between the error terms of the equations. Given the similarity in the underlying factors potentially affecting PWTP and PTA, it is highly likely that the error structures of the two equations will be correlated. To account for the probable correlation between PWTP and PTA, we employ the bivariate ordered probit model. In this paper the dependent variables have five choices each, and the correlation between the error terms of the two equations, as described in the next section, is statistically significant. Therefore, for this analysis, an ordered bivariate probit system of two equations is formulated as follows:

$$\text{PWTP} = f\ (\text{intercept, PRCP1, PRCP2, ATTD, MSINF1, MSINF2, AMB1, AMB2, LABL, CONF1, CONF2, CONF3, RACE, MRST, EDCN, EMST, INCM, CHLD10, AGE, GNDR,}) + u_1 \tag{1}$$

$$\text{PTA} = g\ (\text{intercept, PRCP1, PRCP2, ATTD, MSINF1, MSINF2, AMB1, AMB2, LABL, CONF1, CONF2, CONF3, RACE, MRST, EDCN, EMST, INCM, CHLD10, AGE, GNDR,}) + u_2 \tag{2}$$

In the above formulations, PWTP represents propensity to be willing to pay higher food prices for additional pesticide residue safety measures, and PTA represents the propensity to have altered food consumption habits. The explanatory variables are defined in table 1. The $u_{(i)}$ are random error terms having a bivariate normal distribution, $BVN(0,0,1,1,\rho)$ with ρ being the correlation between the error terms.

Data and Estimation

A survey of Georgia consumers conducted in 1992 by Misra *et al.* (1995) is used as the database. A total of 170 observations were used in the estimation. All variables in the bivariate probit model were constructed from corresponding survey questions..

In addition, three variables CONF1, CONF2, and CONF3 were constructed representing confidence in the comments made about food safety by various groups associated with food production, distribution, regulation and research. The choice of groups in each variable was made based on a factor analysis of nine variables measuring confidence in the following groups: university scientists, government agencies, independent laboratories, chemical manufacturers, consumer groups, growers' associations, supermarkets, popular media personalities, and friends, family, and fellow workers. These nine confidence variables were subjected to a principal components factor analysis using the PROC FACTOR routine in SAS. The analysis defined a smaller set of underlying source factors that account for the correlations among the nine confidence variables.[5]

The reduced set of three source variables explains 58% of the variance in the original set of nine confidence groups. Noting the factor loadings greater than 0.50, the following three source variables are defined: the first variable represents confidence in information provided by groups with a vested stake in preserving the use of pesticides. The second variable represents confidence in information provided by experts with no ties to pesticide use. The third variable represents confidence in information provided by non-experts and non-vested-stake groups. The CONF(i) variables are constructed by adding together the confidence variables within each factor i, i.e., CONF1 is equal to the sum of the confidence scores for chemical manufacturers, grower associations, and government agencies. Thus, CONF1 represents confidence in stakeholder information, CONF2 represents confidence in expert, non-stakeholder information, and CONF3 represents confidence in non-expert, word-of-mouth information. The summary statistics for these and all other variables are given in Table 1.

The dependent variables PWTP and PTA are ordered multiple-choice response variables. These response variables may be highly correlated. As a result, the error terms from the univariate ordered probit regressions will be correlated. Therefore, equations (1) and (2) are estimated using the bivariate ordered probit model. Essentially we assume that the cumulative distribution of the error terms u_i is bivariate normal. The bivariate ordered probit program developed by Hanousek (1994) has been adapted for this analysis, and the maximum likelihood estimation is performed using TSP.

Tables 2 and 3 summarize the estimated marginal effects of important explanatory variables on PWTP and PTA. The model correctly classifies 57 percent and 39 percent of the actual outcomes of PWTP and PTA variables respectively. ρ, the estimated correlation between the error terms is 0.69, and is highly statistically significant. The high value of ρ, and its high significance justifies the application of the bivariate probit model to our study. The analysis shows that the hypotheses that misinformation increases PWTP and PTA are rejected. We also reject the hypotheses that ambiguity increases PTA. However, we fail to reject the hypothesis that ambiguity about EPA approval of pesticides increases PWTP. We reject the hypothesis that ambiguity about FDA reported occurrences of pesticide residues increases PWTP. Other consumer beliefs and opinions had significant impacts on PWTP and PTA. The statistically significant results are detailed below. Those who felt it to be important to provide pesticide information on food labels (variable LABL) are likely to be more willing to pay higher prices for additional food safety, and they are also more likely to have changed their food purchasing habits. Those consumers who believe in the information provided by government representatives, chemical manufacturers and grower associations (CONF1) are less willing to pay higher prices for food safety, but are more likely to have altered their food habits. A possible reason for this could be that growers and chemical manufacturers may not encourage any additional safety regulations on their operations, and would rather advise consumers to take safety precautions. Consumers influenced by such groups would try to alter their food habits, and not be willing to pay extra for additional safety measures.

Conversely, those who believe in the information provided by university scientists, independent lab representatives and consumer groups (variable CONF2) are less likely to change their food habits, but are willing to pay higher prices for

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Table 1.
Descriptive Statistics

Variable	Definition	Mean	Std. Dev.
PWTP	= Response to question "On a scale of 1 to 5, is it important to take additional measures against pesticide residues, even if it might result in higher food prices, to provide additional assurance in the safety of the food we eat." Scale is from 1='not important' to 5 = 'extremely important.'	4.00	1.16
PTA	= Response to question "On a scale of 1 to 5, have you changed your food consumption habits due to pesticide residues." Scale is from 1='no change' to 5='taking extreme precautions to only buy items that are guaranteed to be safe.'	3.07	1.41
PRCP1	= Respondent's perception about treatment of foods by pesticides. Scale is from 1='no problem' to 5='extremely serious problem.'	3.65	1.15
PRCP2	= Respondent's opinion about the adequacy and effective enforcement of food safety regulations. Binary variable equal to 1 if consumer believes food safety regulations are not adequate and not effectively enforced; equal to 0 otherwise.	0.44	0.50
ATTD	= Binary variable equal to 1 if respondent does not want a chemical to be used in food production even if its benefits outweigh its potential health and environmental risks; equal to 0 otherwise.	0.60	0.49
MSINF1	= Binary variable equal to 1 if respondent responded 'false' to the statement "All pesticides must have the approval of the Environmental Protection Agency before they can be sold in the U.S."; equal to 0 otherwise.	0.20	0.40
MSINF2	= Binary variable equal to 1 if respondent responded 'false' to the statement "According to the Food and Drug Administration, occurrences of pesticide residues above legal levels in our food generally appear to be minimal."; equal to 0 otherwise.	0.11	0.31
AMB1	= Binary variable equal to 1 if respondent responded 'don't know' to the statement "All pesticides must have the approval of the Environmental Protection Agency before they can be sold in the U.S."; equal to 0 otherwise.	0.25	0.43
AMB2	= Binary variable equal to 1 if respondent responded 'don't know' to the statement "According to the Food and Drug Administration, occurrences of pesticide residues above legal levels in our food generally appear to be minimal."; equal to 0 otherwise.	0.43	0.50
LABL	= Respondent's opinion on the importance of labeling to convey information about chemicals used to produce a food product and its safety. Scale is from 1='not important' to 3='very important.'	2.71	0.56
CONF1	= Confidence index measuring confidence in comments made about food safety by government agencies, chemical manufacturers, and growers' associations. Scale ranges from 3 to 15.	7.71	2.48
CONF2	= Confidence index measuring confidence in comments made about food safety by university scientists, independent labs, and consumer groups. Scale ranges from 3 to 15.	10.96	2.26
CONF3	= Confidence index measuring confidence in comments made about food safety by supermarket representatives, celebrities, and friends. Scale 3 to 15.	7.41	2.24
RACE	= Binary variable equal to 1 if white; 0 otherwise.	0.87	0.34
MRST	= Binary variable equal to 1 if married; 0 otherwise.	0.72	0.45
EDCN	= Ordinal variable equal to 1 if respondent has less than a high school diploma, 2 if respondent has a high school diploma and some college, and 3 if respondent has a college degree or above.	2.10	0.64
EMST	= Binary variable equal to 1 if employed full-time or part-time; 0 otherwise.	0.62	0.49
INCM	= Ordinal income variable ranging from 1= under $10,000 to 8=$70,000 and over.	4.10	2.12
CHLD10	= Binary variable equal to 1 if the household has children under 10 years of age; 0 otherwise.	0.22	0.42
AGE	= Age in number of years.	48.51	14.63
GNDR	= Binary variable equal to 1 if respondent is male; 0 otherwise.	0.40	0.49

additional food safety. This might be explained by the fact that scientists are increasingly able to detect minuscule amounts of pesticide residues in foods; and consumer groups would rather prefer producers and regulators tackling this problem than burdening consumers with the responsibility of changing their food habits. Results also show that those who are ambiguous about the fact that all pesticides need EPA approval before they are sold in the U.S. (variable AMB1), are more willing to pay higher prices for additional food safety. Thus, information ambiguity seems to be pushing consumers 'to be on the safer side', willing to incur extra costs which could possibly be avoided if full information was known. In regard to other explanatory variables, a positive and statistically significant relationship exists between perception variables PRCP(i) and the dependent variables. If respondents think that pesticide residues are a serious problem, and, if they think that government regulations are neither adequate nor enforced effectively, they are willing to pay higher prices for food safety, and are more likely to have altered their food habits significantly. With regard to attitudes towards pesticide use, those who would like

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Table 2
Marginal Effects on PWTP Probabilities

	PWTP				
Variable	1	2	3	4	5
PRCP1	-0.003	-0.06^{a}	-0.16^{a}	0.08^{a}	0.29^{a}
PRCP2	-0.02	-0.05^{b}	-0.13^{a}	0.07^{b}	0.25^{a}
ATTD	0.00	-0.011	-0.03	-0.014	0.05
AMB1	-0.001	-0.03^{c}	-0.09^{c}	0.06	0.17^{c}
AMB2	0.00	0.013	0.04	0.02	-0.07
MSINF1	0.002	0.004	0.012	0.01	-0.022
MSINF2	0.00	-0.01	-0.03	-0.013	0.047
LABL	-0.02	-0.16^{b}	-0.22^{a}	0.01	0.40^{a}
CONF1	0.00	0.003	0.01	0.004	-0.02
CONF2	0.00	-0.01^{c}	-0.02^{a}	-0.01	0.04^{c}
CHLD10	-0.001	-0.04^{b}	-0.12^{a}	0.08^{c}	0.24^{b}

^{a}Significant at .01, ^{b}significant at .05, ^{c}significant at .05 one-tail test.

Table 3
Marginal Effects on PTA Probabilities

	PTA				
Variable	1	2	3	4	5
PRCP1	-0.03^{c}	-0.02^{c}	-0.002	0.02^{c}	0.04^{c}
PRCP2	-0.15^{a}	-0.11^{a}	-0.02	0.06^{a}	0.21^{a}
ATTD	-0.10^{b}	-0.06^{b}	-0.001	0.04^{c}	0.12^{b}
AMB1	0.01	0.01	0.00	-0.01	-0.01
AMB2	0.03	0.02	0.01	-0.012	-0.033
MSINF1	0.15^{a}	0.08^{a}	-0.02	-0.07^{b}	-0.14^{a}
MSINF2	-0.03	-0.02	-0.004	0.01	0.04
LABL	-0.17^{b}	-0.08^{b}	0.03	0.07	0.14^{b}
CONF1	-0.02^{c}	-0.01^{c}	-0.001	0.01^{c}	0.02^{c}
CONF2	0.001	0.00	0.00	0.00	-0.001
CHLD10	-0.09^{a}	-0.08^{b}	-0.03	0.04^{b}	0.16^{b}

^{a}Significant at .01, ^{b}significant at .05, ^{c}significant at .05 one-tail test.

pesticides banned are likely to have altered their food habits. However, this belief has an insignificant effect on PWTP. For these consumers, banning pesticides may substitute for other pesticide safety measures, or they may feel that only banning pesticides is a worthwhile safety guarantee. This may be due to their belief that government safety measures could be costly, and still may not provide any guarantees of residue-free/risk-free food. Households with children under the age of ten are likely to have altered their food habits in the face of food safety concerns, and are ready to pay higher price for additional food safety measures. This may reflect the fact that parents are responsible for a greater portion of young children's daily food consumption, and thus the safety of the food they eat. In addition, recent publicity about children's relatively high sensitivity to pesticide residues may have increased consumer concerns about children's exposure to pesticide residues. (National Research Council, 1993)

Conclusion and Implications

Most pesticide food safety studies in the past focused on the effects of socio-economic, demographic, and attitudinal variables on WTP for food safety. However, with the exception of the study by Wohl *et al.* (1995) who considers ambiguity as one of the important determinants of WTP higher prices, none have considered the impacts of ambiguity, information and misinformation. While the previous studies consider ambiguity per sé, this study considers a broad range of variables that incorporate ambiguity, information and misinformation about food safety issues. A bivariate ordered probit model is formulated to determine the impacts of these variables on the propensity to be willing to pay for additional food safety and the propensity to have altered food consumption habits. The model is empirically estimated using data from a 1992 survey of Georgia consumers.

Our results show that some information variables do matter in determining PWTP and PTA. However, the results suggest that perceptions about pesticide risks and the efficacy of existing pesticide regulations have larger effects on the two response variables. Ambiguity about safety measures does make consumers more likely to feel it is important to take additional costly food safety measures, but does not affect averting behavior. Misinformation does not increase either PWTP or PTA. Consumers who feel that it is important to provide pesticide information on food labels have both higher PWTP and PTA. This may be due to these consumers feeling that adequate information is not already available (hence the higher PWTP) and that they are already engaged in costly search behavior for safer foods (hence the higher PTA).

Confidence in information sources had varying impacts. While consumers influenced by scientists are more willing to pay for additional safety, others, influenced by chemical manufacturers and growers are more willing to alter their food habits. Households with children under the age of ten have particularly strong desires for additional food safety, even if at additional cost, and they are also more likely to have changed their food consumption habits.

These findings are important from the standpoint of food safety policies. With the advent of modern monitoring technologies it is practically impossible to find no trace of pesticides in foods. It may no longer be optimal to seek a zero residue standard of safety. In fact, there is most likely a diminishing return to reducing the levels of residues on crops that are, for the most part, residue free. Reducing residues further may result in significant costs, both to producers and consumers. The repealing of the Delaney Clause in the recently enacted Food Quality Protection Act represents a recognition of these issues and may allow for a better weighing of the benefits and costs of residue reductions. However, along with it comes the responsibility of educating consumers about the standards for pesticide residues in foods, and what those standards mean. Moreover, information about the enforcement of those standards will be also allow consumers to better understand the risks they face from pesticide residues. The emphasis of the Food Quality Protection Act on protecting children from pesticide residue risks should help to reduce the concerns of parents with young children as indicated in our model. Finally, our analysis indicates that consumer confidence in pesticide information provided by various groups associated with food production, research, and regulation indicate that there is a need to bring these groups together at a common forum, and present an integrated assessment of pesticide residue risks to consumers.

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Using Positive Behavioral Models to Help Older Consumers Avoid Victimization by Confidence Swindlers

A review of recent informational initiatives to help consumers avoid being defrauded revealed that the advice offered draws heavily on past fraud cases in which swindlers were successful in victimizing consumers. This paper draws upon behavioral theory to argue that such case studies are limited in usefulness and need to be supplemented by case studies of unsuccessful efforts by swindlers to defraud consumers.

Monroe Friedman, Eastern Michigan University[1]

For years law enforcement practitioners have developed speaker programs, user guides and other informational initiatives to help consumers avoid economic exploitation by criminal elements. While these practitioner-launched undertakings are undoubtedly valuable to many consumers, it is the contention of this paper that they would be even more valuable if the advice they offered drew upon a larger and more diverse informational base.

In this paper an informational base commonly associated with consumer initiatives for avoiding victimization is described along with its limitations. Also described briefly is a paradigm shift to a new strategic approach for enlarging the informational base to provide more directly useful behavioral guidelines for helping consumers avoid victimization.

The Current Informational Base and Its Limitations

The informational initiatives noted above, like most consumer guides for avoiding victimization by criminals, are authored by practitioners with considerable professional experience dealing with criminal cases of consumer fraud. This experience typically takes the form of criminal investigations or prosecutions, at federal, state or local levels. The natural unit of description and analysis is often the individual police or agency report which describes in detail the particulars of an alleged act of fraud and its impact on the victim (e.g., financial losses incurred).

While such reports offer several advantages to the practitioner who hopes to help consumers avoid victimization (e.g., the reports provide a wealth of swindle particulars useful in informational and educational programs), the cases they consider are unlikely to be representative of scams at large. Many crimes go unreported and this is especially true of confidence swindles.

A second weakness of case studies concerns their lack of information about critical incidents or stimuli which led to consumer victimization. It may be helpful to get an impression, albeit unrepresentative, of when and where swindles occurred, but this general information is unlikely to be sufficient to help consumers ward off a swindler's sophisticated approach. For it is not enough to provide a set of general background characteristics to be on guard against since this will surely lead to many "false positives" being identified by consumers, in that many individuals or circumstances which fit the swindle category also fit the non-swindle category.

What is especially needed to resolve such dilemmas is what behavioral theorists refer to as discriminative stimuli and responses, stimuli and responses whose presence is associated with a swindle situation and whose absence is associated with a non-swindle situation. In lay terms we should think of discriminative stimuli as danger signals and discriminative responses as escape mechanisms.

Unfortunately, analyses of case studies of swindles reveal few danger signals and escape mechanisms. This finding should come as no surprise since case studies typically found in police files have been placed there as a result of the failure of swindle victims to recognize and act upon discriminative stimuli.

Helping Elders Cope with Confidence Swindles: A Paradigm Shift

To secure the needed information on danger signals and escape mechanisms, it was decided that a paradigm shift to a new strategic approach was needed.

one which focused on the coping behaviors of consumers who have been successful in dealing with the attempts of confidence swindlers to defraud them. Since elders are often victimized by confidence swindles, it was also decided to focus on this population subgroup.

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Consumer Protection in South Korea

Understanding global consumer interests and the market environment is important in this age of interdependency. Consumer protection in South Korea began in the mid-1970s. In 1980, the government passed the " Korea Consumer Protection Act (KCPA)" that provided the foundation for consumer protection in South Korea. This paper will review consumer protection in South Korea.

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Introduction

South Korea is one of the Newly Industrialized Countries; it is the 12th largest world trading country. The population of South Korea is 45.2 million in 1996, and the GNP of 1996 was $480.4 billion, per capita income of that year was $10,548. South Korea is thriving in culture, society, and academics.

Consumer protection in South Korea began in the mid-1970s. As a market-oriented society, South Korea had many unattended consumer problems during the 1960s. When the huge consumer price increases occurred due to the oil shocks in the mid-1970s, the government began to intervene in consumer protection. In 1980 the government passed the " Korea Consumer Protection Act (KCPA)" that provided the foundation for consumer protection in South Korea.

Overview of Consumer Protection Regulations in South Korea

Consumer protection regulations in South Korea exist in three general areas: (1) legislative, (2) administrative, and (3) judicial. South Korea has several consumer protection laws, such as the Consumer Protection Act, the Antitrust Act, the Price Stabilization and Fair Transaction Act, the Service Contracts Act, the Acts on Door-to-door Sales, the Act on Installment Transactions, the Food Safety Act, and the Consumer Product Safety (Quality) Act.

The South Korea Consumer Protection Agency within the national government's Economic Planning Board administers these regulations. The South Korea Consumer Protection Agency is composed of the Departments of Consumer Policy Research, Testing & Evaluation, Fair Trade, Consumer Safety, Information & Publishing, Education & Training, and Counseling & Conciliation. The Consumer Dispute Settlement Committee also exists within the Agency. The major functions of this agency are enforcement consumer protection policies and regulations, supervision of businesses, testing, evaluating, counseling, and reconciling consumer problems. This agency plays an important role in narrowing the information gap between consumers and businesses by conducting research and distributing the information by publishing "Sobija Sidae(Consumer Era)." Consumer problems can be dealt with as civil affairs or criminal affairs, if consumers file their problems in court.

South Korea Consumer Protection Act

KCPA stipulates seven consumer rights: (1) the right to safety, (2) the right to be informed, (3) the right to choose, (4) the right to be heard, (5) the right to redress or remedy, (6) the right to be educated, and (7) the right to organize private consumer organizations. It also designates the roles of national and local government agencies in consumer protection. According to this act, the South Korea national and local government agencies should act in the following roles: (1) promulgating relevant regulations, (2) improving related institution functions, (3) regulating advertising, (4) promoting fair transactions, (5) reforming the measuring system, (6) educating consumers, and (7) redressing and remedying consumer problems. It also specifies industry requirements in consumer protection. KCPA provides for the establishment of the South Korean Consumer Protection Agency, and details its missions and organizational structure. KCPA also stipulates the roles and functions of private consumer protection organizations.

Five Categories of Consumer Protection in South Korea

Fair Transaction

Antitrust Act. The South Korea Antitrust Act is similar to that is in the United States, while monopolies and oligopolies are not illegal, monopolizing is illegal. The following are some examples of illegal monopolizing practices in South Korea: price fixing, market segment agreements, unfair supply limitations, special market barrier settings, transaction condition agreements, and equipment limitations. A problem with the act is that many monopolies are exempt from the law. According to this act a business which has over 50 percent of market share is a monopoly. For three businesses which have over 75 percent of market share are monopolies. Because the criteria of monopolistic business are so high, there are some monopolies in real market that are not regulated by this law. Another problem of this act is the ambiguity of interpretation of the term "unfair."

Price Regulation. The Price Stabilization Act allows the government to intervene in the regulation of public fares, price ceilings, and price information disclosures. The South Korea national government administers the change of prices for government owned businesses. These businesses include train, electricity, postal service, and domestic telecommunications. Unit pricing is mandatory in South Korea.

Act on Installment Transactions. The Act on Installment Transactions of 1986 is applied to only mobile property and services, not to real estate. Consumers have a 7-day cooling off period. This act controls the process of installment transactions. Consumers need to sign all relevant documents in order to be protected under this law.

Acts on Door-to-door Sales. This act has three sub-categories: (1) Act on Door-to-door Sales, (2) Act on Telemarketing Transactions, and (3) Act on Multilevel Marketing. The seller must disclose all related information before the transaction occurs, the written contract must be signed, and the consumer can cancel the contract within 7 days after the transaction. Telemarketing transactions are relatively new in South Korea; the specific and concrete consumer protection contents were included in the act in 1996. The act stipulates that all information be disclosed, especially about the consumer rights of withdrawal from the contract. Consumers can withdraw from the contract within 20 days if the product has been destroyed, if a different product has been delivered, or if the product is delivered later than the appointed date. Also, the act prohibits false and deceptive advertising. Multi-level marketing in South Korea is similar to pyramid marketing. This act is similar to the Door-to-door Sales Act. The primary goal of this act is to prohibit unfair transactions. Thus, information disclosures before contract signing is mandatory, and consumers have a 7-day cooling off period. Also, it regulates the advertising of multi-level marketing products.

Service Contract Act. A contract can be effective only when the buyer and the seller agree and sign it. Contracts involve the following service transactions: (1) bank transactions, (2) insurance, (3) some service supplies such as electricity, water, and gas supply, (4) installment sales, (5) telemarketing, (6) travel transactions, and (7) postal services. Because most consumers do not read the contract in most of these service transactions, the act prohibits unfair terms and seller exemptions in the contracts.

Consumer Protection on Services

The acts on Insurance, Travel, and the Health Insurance exist in South Korea. Consumer protection on services is related to fair transactions, therefore acts on contracts, such as insurance contract and travel contract, play an important role. Medical problems have been a focus in recent years, but to date there is no strong consumer protection mechanism in this area. Generally, consumers solve any medical problem through reciprocal actions with doctors. Medical care problems can be dealt with as civil or criminal affairs. Consumers can ask the Committee of Medical Care Inspection Arbitration and the South Korea Medical Science Mutual Aid Association for assistance.

Consumer Safety

South Korea has a Food Safety Act and a Consumer Product Safety Act. The Electric Appliance Safety Act exists separately. The Food Safety act regulates the distribution period for foods, the sanitary conditions of food vending machines, the sale of health related foods (such as organic foods), and the condition of imported foods and drugs. In 1996 the South Korea Food and Drug Administration was inaugurated, and it enforces the Food Safety Act. The Product Safety Act and the Electric Appliance Safety Act regulate the quality and safety of consumer products. Quality inspections and grading of consumer products are required by these laws. But these acts provide more industry regulation than consumer protection; they focus more on product quality than on consumer safety.

Consumer Credit Protection

For consumer credit protection, South Korea has the following acts: Act on Installment Credit, Act on Credit Cards, Banking Act, Act on Pawn shops, and Act on Interest Limitation. The basic notion and characteristics are the same as the United States acts, but the scope and applications are a little different. According to the Credit Card Act, consumers can file a claim for redress by writing a letter of complaint. However only those products that are priced over $230 fall under the protections offered in this law. For the unauthorized use, a credit card company is obligated to pay for up to 15 days of misuse from the day the consumer reports the card stolen.

Consumer Redress after the Sale

There are ways of obtaining consumer redress after the sale that exist in South Korea: redress through reciprocal actions, redress through private consumer protection organizations, and redress through the South Korea Consumer Protection Agency. When the consumer has a problem with merchandise or service, the South Korea Consumer Protection Agency may intervene and mediate for the consumer. If an agreement to settle the dispute between the consumer and the business has not been reached after 30 days, the consumer may request that the Consumer Dispute Settlement Committee in the Agency consider the case. Also, consumers can sue a company for product liability problems. However, class action lawsuits are not permitted in South Korea; therefore, most of the small sum problems that many consumers have are hard to redress.

South Korean Private Non-Profit Consumer Protection Organizations

These organizations are composed of consumers who themselves promote consumer rights and consumer protection. The major functions of these private consumer protection organizations include: (1) making recommendations regarding consumer protection generated by agencies of national and local government, (2) conducting consumer problems investigations and inspections, (3) testing of consumer goods and services, (4) conducting research on consumer issues, (5) educating consumers, and (6) providing consumer consultation services and consumer information. Some 309,753 cases of complaints were filed in these organizations in 1996. The following are examples of non-profit consumer protection organizations which are registered with the Economic Planning Board and receive government subsidies: the YWCA, the YMCA, South Korean Federation of Housewives' Clubs, the National Conference of Housewives for the Betterment of Home Life, the South Korean Women's Association, the Citizen's Alliance for Consumer Protection of South Korea, and the Consumers Union of South Korea.

Conclusion

There is plenty of room for improvement in South Korea consumer protection acts and regulations. Because of its short history of consumer protection and the relatively less aggressive consumer movement in South Korea compared to the United States, the consumer protection in South Korea is still in its beginning stages. The national government, consumer protection organizations, businesses, educators, and consumers themselves need to concentrate more on asserting their consumer rights.

Endnote

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Financial Difficulty Measured as Monthly Deficit: An Empirical Analysis of Associated Factors

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Models to explain monthly balance were developed to test relationships and to show the relative importance of selected variables. Variables in Model One explained 53 percent of the variation in monthly balance and variables in Model Two explained 96 percent. Practical advice for solving financial difficulties from spending more than monthly income can now be supported by empirical analysis of data in the Consumer Expenditure Survey.

The expertise of many consumer advisors is to provide suggestions for resolving financial problems. The purposes of this paper are to identify indicators of financial difficulties and test the effects of these indicators including selected characteristics and expenditures upon financial difficulty measured as having a monthly deficit. Practical advice can then be documented by this empirical research showing the effects of socioeconomic and demographic characteristics, income and expenditures.

Identification of Financial Difficulties

Problems of clients participating in over 200 consumer credit counseling agencies under the auspices of the National Foundation for Consumer Credit have been identified poor money management for 45 percent of their clients. Reduced income or recent unemployment was the problem for 28 percent, divorce/separation for 10 percent, unexpected or additional medical expense for 8 percent, substance abuse for 1 percent, death of family member for 1 percent, and other 7 percent. In discussing the need for financial counselors, Mason (1993) identified these problems: home foreclosure, car repossession, utility disconnection, huge debt, difficulty in making ends meet between paydays, and inability to save or invest.

In a presentation at a national meeting, Abernethy (1993) stated that most clients could solve their financial problems by selling one car and eliminating gambling or an addiction. This was a general observation based on consumer credit counseling experiences. Research by Zhou (1996) documented that the second vehicle in a household on the average costs $2,400. Number of vehicles was positively related to total transportation expenditure, as was expected. One additional vehicle in the household explained a $2,549 increase beyond the sample mean of transportation expenditure. Vehicle payment was only 40 percent of the total transportation expenditure. The sample mean for transportation was $5,460. This regression on household monthly deficit can reveal if the number of vehicles is a significant factor of financial difficulty.

During the first four months of 1996, personal bankruptcy filings increased 27 percent, the largest four month increase in history (Bleakley, 1996). SMR Research Corporation in New Jersey reported that bankruptcy filers had an unexpected setback, such as loss of job, divorce, medical bills or additional costs due to an auto accident. The research by SMR found a high correlation between bankruptcy filings and states that don't mandate auto insurance, that have high divorce rates, and have a high percentage of their population without medical insurance (Bleakley, 1996).

Statistics compiled by the Federal Reserve Board indicate financial problems. Installment debt, excluding auto leases and real estate secured debt, increased 12.1 percent (annualized rate) during January 1995 and 12.4 percent during the last three months of 1995 (Bleakley, 1996). "Revolving credit exceeded $400 billion outstanding for the first time ever" (p. 1). Personal bankruptcy petitions filed during 1995 increased 12.1 percent over the year earlier reported by the U.S. Administrative Office of Courts. Only two judicial district courts of the 93 districts did not experience increases in bankruptcy.

Bankruptcy and other financial problems are due in part to increased expectations in the standard of living, easy credit, and, at the same time, decreased real income. In terms of both before and after taxes, most families have stagnated income or worse income (Brimelow, 1996) and are marginally worse off after taxes than 24 years ago.

Other indicators of financial difficulty or overextension are net worth, saving, and borrowing.

The amount borrowed on mortgages, credit cards, and auto loans was the highest in history in 1995 and equaled 92 percent of Americans' after-tax income (Parrish, 1995). Consumer installment debt which includes auto loans and credit cards was slightly over 17% of disposable income in 1994, an increase of one percent from 1993. Abernethy (1995) reported that only 57 percent of families save. Seven percent of families have a negative net worth. Only 27 percent save for retirement and loans against pensions are increasing.

Indicators of problems in using credit and an explanation of why many families have a negative cash flow balance each month are their frequency of paying balances each month and their delinquencies. Abernethy (1995) reported that only 50 percent of credit card users pay the balance due each month. Whereas in 1983, 2.6 percent of VISA users were delinquent, in 1991, 4.9 percent were delinquent. Percentages of individual spending used to repay debts via Consumer Credit Counseling Services increased from 10 percent to 30 percent during the last 10 years. Delinquencies in all types of consumer loans rose at the end of 1995 reported the American Bankers Association and the Mortgage Bankers Association (Bleakley, 1996). "The ABA's bank card index equaled a 10-year high at 3.34 percent of accounts delinquent during the fourth quarter of 1995 (Bleakley, 1996, 1).

An analysis of the Bureau of Labor Statistics' Consumer Expenditure Survey revealed that almost 40 percent of the "households spent more than their income in 1990" (Bae, Hanna, and Lindamood, 1993). The factors influencing overspending were low income, education with college educated consumers more likely to overspend than high school educated or less, age, and household size, using multivariate logistic regression. "Predicted overspending increases with age for one person households and decreases with age for households with five or more people. The probability of overspending increases with household size up to a size of four persons, then decreases somewhat for sizes of four or more" (p. 25). The researchers reasoned that the effects of age and education could be explained by the observation of other mean income level being "about the average income of one person households but below the average income of four person households" (p. 25). They reported that an "elderly one person household" would be "very unlikely to overspend."

Income loss is a broad term that causes the need for adjustment, financial problems if adjustment is not effective, and family stress. Different reasons for income loss may affect adjustment and overspending differently. Other effects such as negative mood, antisocial behavior, depression and aggression occur. Sources of income loss are "unstable work, from unemployment spells to under-employment and demotion" (Elder, Conger, Foster, and Ardelt, 1992), job changes, declining sales, divorce, and death. Researchers concluded:

> An unfavorable income or income-to-needs ratio brings a family's level of living into the picture; adverse-income change indicates an unpromising economic trend as when families are unable to keep up with the cost of living...., unstable work incorporates the pattern of employment in the analysis....; and economic pressures tap the situational definitions and strategies of the family, as expressed through difficulties in making ends meet and in cutting back on consumption. (Elder, et al. 1992, 31).

The causes of financial problems or overspending have been both external and internal such as behavior patterns and mismanagement. External factors are unemployment rates, interest rates, availability of credit, divorce rates, change in bankruptcy law, and change in filing for bankruptcy (Hira, Swift & Kostelecky, 1994). Internal factors include poor management skills, lack of mathematical abilities, medical bills, marital problems, office politics, and inability to say no to children (Williams, 1992). A Canadian study (reported in Hira, et al. 1994, 40) identified causes of consumer bankruptcy in the early lives of debtors such as "marital difficulties among parents, problems due to alcohol and drug dependency, and other serious personal lifestyle issues."

An example of an internal cause is given by O'Neill, Lytton & Parrott (1995, 134): "Financial problems often sneak up on people who are complacent about their debt and assume that no problem exists long as they are making minimum payments." People are more concerned with the monthly payment than the total cost of the loan and have no idea of the total amount of their debt.

Financial problems of urban families were ranked least to most often by Williams, Nall & Deck (1976). They were danger of having gas or electricity turned off; getting behind in rent or house payments; not affording to keep household equipment and appliances in running order; not having enough food to last until there is money to buy more; inability to meet large bills; not enough money for dentist, doctor, or medicine; inability to buy new shoes or clothes; inability to buy special things kids want; and inability to save money. The problem and intensity with which they were experienced were assumed to reflect priorities and management. Since only 20 percent of the families experienced the utility problem, they probably perceived the consequences of not paying utilities as more severe than not paying other bills and managed to meet that expense. Therefore, the problems can be hypothesized to affect overspending in their relative order of frequency, negatively related.

Informal response by the author when asked about amount of income necessary for adequacy has been "It depends on the size of the family and mortgage." A standard package of goods and services desired by Americans has been observed. This research can shed light on these casual observations.

Methodology

Data and Sample

The data used in the study are extracted from the 1992 Consumer Expenditure Survey (CES) Public-Use Data Tape. The Consumer Expenditure Survey is a continuous, comprehensive and detailed collection of data on the buying habits and expenditure patterns from statistically representative U.S. households conducted by the Bureau of Labor Statistics.

Due to the nature of the quarterly household expenditure data in the CES, a selection criteria is used to decide which households will be included in the study. Since the interest of the research is to study and examine the variations in household monthly balance, income and expenditures, only those households who completed (1) all four quarters of the expenditure survey and 2) all four quarters of the expenditure survey recorded consecutively, are included in the study.

There are 1,967 households who have completed all four quarters of expenditures in the 1992 CES. Households whose reported after-tax income is less than or equal to zero are deleted (131 households). Households with the race of the reference person in the households being American Indian, Aleut, or Eskimo are deleted from the sample (13 households). The final sample contains 1,815 households.

Variables

Monthly balance is calculated by subtracting expenses from household after-tax income, treated as a continuous variable. After-tax income is the reported household annual income divided by 12 for monthly income, treated as a continuous variable.

Housing expenditure is the total expenditure for housing excluding household operations and services, and principal in the mortgage payment. The principal is considered an investment rather than an expenditure in the Consumer Expenditure Survey. Housing tenure is the status of homeownership versus renting, treated as a dummy variable set with homeownership the reference variable.

Transportation expenditure includes vehicle expenditures, gasoline, oil, maintenance, finance expenditure, and public transportation. Number of vehicles is a continuous variable of the sum of all vehicles in the household surveyed.

Household size or family size is the total members in the household including children under 18. Race is that of the household reference person (person who responded to the interview) treated as a dummy variable set: white, black and hispanic, and Asian with white as the reference variable.

Marital status is simply a dummy variable set of married and otherwise. Age of the household reference person is treated as a dummy variable set: <25, 25-34, 35-44, 45-54, 55-64, 65-74, and 75 and over, with less than 25 the reference variable.

Occupation is a dummy variable set: professional and managerial, technical and administrative, self-employed, currently unemployed, and retired with professional/managerial as the reference variable. Number of earners is number of wage earners in the household treated as a continuous variable. Education is the educational level of the household reference person treated as a dummy variable set: less than high school graduate, high school graduate, some college, college graduate, and beyond college, with less than high school the reference variable.

Statistical Procedure

The techniques of regression analysis are employed to determine the effect of one independent variable upon the dependent variable monthly balance (deficit/surplus) while holding the other variables constant. Ordinary least square (OLS) regression step-wise forward procedure is utilized to obtain parameter estimates (beta coefficients) and to assess the relative importance of variables (adjusted betas) in their contribution to explaining variation in the dependent variable. The forward procedure yields a more conservative estimate than other regression procedures. The problem of multicollinearity was examined by use of the variance inflation factor. Since values obtained were less than 10, multicollinearity was not considered a problem.

The statistical model designed to address the research objectives and test hypothesized relationship can be specified in the following form:

$$Y = B_o + B_{1,\dots} B_n + e \qquad (1)$$

where Y is the dependent variable monthly balance (surplus/deficit); B_o is the slope of the regression line; B_1 through B_n are regression coefficient for income, age, educational level, marital status, occupational level, number of earners, residence, tenure, and various household expenditures, and e is an error term with a certain distribution.

Results

The monthly balance for the entire sample in the Consumer Expenditure Survey is a surplus of $134.79 ($135). Both statistical models of monthly deficit/surplus are highly significant (p.<.001) shown in Tables 1 and 2, and reveal associated factors. Characteristics in model one explain 53 percent of the variation. Characteristics plus expenditures in model two explain 96 percent of the variation.

Model One

The significant socioeconomic and demographic effects, in relative importance, for model one (Table 1) are: monthly income, number of vehicles, family size, educational level, residence, renting, age, race, number of income sources, and occupation. The regression on household monthly deficit revealed that number of vehicles is a significant factor of financial difficulty. Not significant in either model one or two is number of earners.

Table 1
Stepwise Regression Results: Model 1 on Monthly Balance with Selected Characteristics

Variable (All in model)	Parameter Estimate (B)	Step Variable Entered Model	Partial R**2^{2}
Intercept	-968.45***		
Monthly Income	0.63***	1	.3992
Education (> high school, reference)			
High school	-138.50	13	.0014
Some college	-355.41***	6	.0075
College	-551.62***	5	.0125
Beyond college	-689.79***	4	.0135
Age 45-54 (>25, reference)	-246.67***	9	.0025
Age 55-64	-169.14**	11	.0017
Tenure (Owner, reference)			
Renter	219.54***	8	.0046
Residence (Urban, reference)			
Rural	435.73***	7	.0044
Occupation (Professional/ managerial, reference)			
Technical, sales, administrative	337.68***	17	.0017
Service	536.33***	14	.0010
Farming, forestry fishing	487.22***	16	.0012
Operators, laborers	477.30***	15	.0012
Unemployed	536.77***	19	.0001
Retired	475.49***	18	.0002
Race (white, reference)			
Black	28.92**	10	.0025
Number of vehicles	-183.53***	2	.0455
Family size	-195.51***	3	.0193
Number of income sources	269.36***	12	.0013
F	89.20*** DF 19,1517		
R^2	0.53		

* p< 0.10 ** p<0.05 *** p<0.001

Monthly income is the first variable to be entered into the regression model, explaining 40 percent of the variation in monthly balance (deficit/surplus) by itself (p<0.001). Number of vehicles is the second variable entered in (p<0.001) which increases the explanatory power to 45 percent. Family size is the third variable to be entered in the model (p<0.001) and increases the explanatory power to 46 percent.

For every additional dollar, monthly surplus increases $0.63 (the parameter estimate, beta coefficient). For each additional vehicle, monthly deficit increases $183.53 (monthly balance decreases by $183.53). For each additional family member, monthly deficit is increased $195.51 (monthly balance decreases by $195.51) holding income constant.

Educational level is significantly related to monthly deficit/surplus, tested by stepwise regression as a dummy variable set. When holding income and other variables constant in regression analysis, all levels have a surplus greater than the level of less than high school, the reference variable. The level of beyond college has the greatest difference of $689.79 monthly balance, compared to less than high school. Of course, those beyond college had more income to have a greater deficit.

Rural households have $435.73 more than urban in their monthly balance. Renters have $219.54 more than homeowners in their monthly balance. Black households have $228.92 more than whites in their monthly balance. Age levels of 45-54 and 55-64 are the only ones significant enough (>p= 0.15) to be entered into the model. Compared to the age of less than 25, these age groups have a higher monthly balance, $246.67 and $169.14, respectively. The coefficients are minus because the value of the coefficient for less than high school was minus, a deficit balance.

All of the occupational levels are entered into the model ($p<0.10$ to $p<0.01$) except for the self-employed category. Compared to the professional/managerial level category, holding other variables such as income constant, other occupational levels have a higher monthly balance.

Model Two

The significant effects for model two (Table 2) composed of socioeconomic and demographic characteristics plus selected expenditures, in relative importance are: monthly income, and negative factors of housing expenditures, transportation expenditures, clothing expenditures, health expenditures, educational expenditures, food away from home, miscellaneous expenditures, number of vehicles, cash contributions, alcoholic beverage expenditures, family size, age, educational level, tobacco expenditures, and renting.

As in Model One, monthly income is the most important variable affecting monthly balance which explains 40 percent of its variation ($p<0.001$). But in contrast to Model One which had characteristics and not expenditures, the next two variables are housing and transportation expenditures ($p<0.001$) and added to income explain 87 percent of the variation in monthly balance. With clothing expenditures ($p<0.001$), these variables explain 91 percent and with health expenditures explain 93 percent. For each additional dollar spent on housing, transportation, clothing and health, the monthly balance is decreased by $0.10, $0.09, $0.13, and $0.11, respectively. Food away from home, alcoholic beverages, tobacco, and miscellaneous are significant contributors to monthly deficit.

Table 2
Stepwise Regression Results: Model 2 Monthly Balanace with Selected Characteristics and Expenses

Variable (All in model)	Parameter Estimate (B)	Step Variable Entered Model	Partial R ** 2^{1}
Intercept	-77.90**		
Monthly Income	0.93***	1	.4000
Education (> High School, reference)			
College	-42.11	22	.0001
Beyond college	-130.59***	16	.0005
Age (Less than 25, reference)			
25-34	117.41**	19	.0001
35-44	114.68***	15	.0007
65-74	157.97***	14	.0001
75 and over	190.30***	13	.0050
Occupation (Professional/ managerial, reference)			
Operators, laborers	54.80**	20	.0001
Number of vehicles	-38.81***	9	.0020
Family size	-44.55***	12	.0016
Income sources	-39.96*	21	.0001
Housing expenditures	-0.10***	2	.3000
Transportation expenditures	-0.09***	3	.1800
Tenure (Owners, reference)			
Renters	46.21**	18	.0002
Health expenditures	-0.11***	5	.0200
Alcoholic beverages expenditures	-0.17**	11	.0016
Tobacco expenditures	-0.06***	17	.0002
Miscellaneous expenditures	-0.10***	8	.004
Cash contributions	-0.08***	10	.0014
Food away from home expenditures	-0.10***	7	.0100
Clothing expenditures	-0.13***	4	.0300
Educational expenditures	-0.09***	6	.0100
F	1616.97*** DF 22,1514		
R^2	0.959		

* $p < 0.10$ ** $p<0.05$ *** $p < 0.001$

Implications

Research documents that reducing number of vehicles and housing and transportation expenditures, holding other costs and characteristics constant, can improve monthly balance. Housing and transportation are the two areas that consumers are probably most likely to underestimate in their total expenses. Other expenditures that also need control or reduction according to this research are health, education, food away from home, miscellaneous, alcoholic beverages, and tobacco.

The hypothesis generated from this research for future study is: When housing and transportation expenditures are underestimated in the initial purchase decision, they cause cash flow problems or overspending. As a result of this research, implications to the consumer advisor are identified. Worksheets need to be developed for consumers to better estimate total expenditures. Policies on affordability need to be changed in light of financial difficulties.

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Endnotes

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Overspending Behavior of Households With and Without Vehicle Purchases

Bae, Hanna and Lindamood (1993) estimated that 40% of households in 1990 spent more than their income. This study investigates overspending in greater depth, using a much larger dataset (1990-1992), and divides into households with and without vehicle purchases. The major results of the previous study were replicated, notably, that all other things equal, more educated households are more likely to overspend than less educated households. Households headed by Blacks were less likely to overspend than otherwise similar households headed by whites. Households with vehicle purchases are more likely to overspend (55%) than those without purchases (35%).

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Use of consumer credit is increasing in the United States. Outstanding consumer installment credit increased from 296 billion dollars in 1980 to 790 billion in 1993, with automobile credit representing 35% (U.S. Bureau of the Census, 1994, Table 797, p. 521). Use of credit may be rational, as with many loans obtained to purchase a home or other durable items. However, many households have run into trouble with credit, as shown by the increase in the number of non-business bankruptcy petitions filed from 312,914 in 1981 (U.S. Bureau of the Census, 1992, p. 532) to over one million in 1996 (Bork, 1997). Although overspending may be rational at some points in the life cycle, persistent indebtedness places households at risk of not achieving major financial goals. The main purpose of this research is to extend previous research on overspending by comparing determinants of overspending in households with vehicle purchases during a 12 month period to determinants of overspending among households without vehicle purchases.

Literature

Bae, Hanna and Lindamood (1993) analyzed overspending in a sample of households with 4 quarters of expenditure data in the 1990 Bureau of Labor Statistics (BLS) Consumer Expenditure Survey. One of the challenges they faced was the definition of total expenditures used, especially the treatment of vehicle purchases. Net vehicle purchases were included in current expenditures even if long term financing was used. For instance, if one consumer purchased a $20,000 auto with a 60 month, no down payment loan and another consumer leased the same auto with a 60 month lease, the purchaser would be counted as having a $20,000 expenditure in that year, while the consumer who leased might be counted as having only one lease payment. Clearly, the impact on household finances would be similar. Bae, Hanna and Lindamood (1993) dealt with this issue by subtracting net vehicle purchases from transportation expenditures and adding vehicle installment payments (net of finance charges which were already counted by BLS). With that and other adjustments, they found that 40% of households spent more than income during the calendar year. They offered life cycle explanations of some of the patterns observed. For instance, households with more educated respondents were more likely to overspend than otherwise similar households with less educated respondents. The predicted rate of overspending was strongly related to income. However, the age effects did not seem consistent with a life cycle explanation. Their estimate of the overall rate of overspending seemed consistent with research by DeVaney(1993) showing that 38% of the households headed by someone age 25 or over had a decrease in net worth in the 1983-1986 panels of the Survey of Consumer Finance (Bae, Hanna, & Lindamood, 1993).

Theoretical Foundations

According to the conventional Lifecycle Consumption Hypothesis, a rational family adopts a lifetime consumption plan that balances the utility gained from acquiring additional financial assets against expenditures on current consumption across all stages of the lifecycle. Households are assumed to maximize utility through-out their lifecycle within budget constraints, where utility is assumed to be a function of total consumption (Ando & Modigliani, 1963). The hypothesis postulates that households plan to maintain smooth consumption levels during their lifetimes. Typically, individual income is expected to be low at a young age, rise with professional achievements, and then fall with retirement. In order to have consumption constant or slowly increasing over time to maximize satisfaction, during the early lifecycle stages households may borrow against their future earnings, then repay the debt and accumulate wealth during middle age, and draw down savings during retirement. Therefore, many young households will overspend, few middle-age households should overspend, and most retired households should overspend. In the basic Lifecycle model, the household bases its decisions on events which are assumed to be known with certainty. As income is neither constant nor certain, households may either prepare themselves for the emergencies by accumulating assets or borrow to adjust to income fluctuations (Chang & Hanna, 1994).

The lifecycle theory may provide a basis for explaining rational overspending behavior of households. If a consumer knew his or her life span, valued future consumption exactly the same as present consumption, and faced a real interest rate of zero, then optimal consumption per year will equal average lifetime income. The average lifetime income is similar to Friedman's concept of permanent income (Magrabi et al., 1991; Bae et al., 1993). If income this year is below the expected lifetime consumption level, the consumer should overspend this year. If income is above, the consumer should underspend this year in order to repay debts from times of overspending or to provide for future years of low incomes. Since income fluctuates greatly for many households and given the fact that many households experience substantial increases or decreases in income from one year to the next (Chang, 1993) a considerable amount of overspending would be consistent with the simple lifecycle model (Bae et al., 1993). Households who have accumulated assets, especially financial assets, may be more likely to overspend than otherwise similar households who have not, as borrowing to overspend may be limited and at high interest rates, whereas the aftertax cost of liquidating financial assets to overspend may be very low (c.f., Deaton, 1992, pp. 47-48). Therefore, there should be a positive relationship between overspending and the level of net financial assets. Homeowners without a mortgage should be more likely to overspend than otherwise similar homeowners with a mortgage, who in turn should be more likely to overspend than otherwise similar renters.

Based on the theoretical model and previous studies it is expected that younger households with vehicle purchases and in their early stage of the life cycle are more likely to overspend compared to households without vehicle purchases. It is also expected that middle aged households are more likely to accumulate savings to help them during retirement, so they should be the least likely to overspend. To allow for a nonlinear pattern of overspending by age, 13 different age groups at 5 year intervals were defined.

Household heads with more education tend to experience lower income uncertainty, higher permanent income and are more likely to have increasing income compared to those households headed by persons with less than high school degree. It is therefore hypothesized that more educated household heads are more likely to overspend than otherwise similar households with less education.

Household structure is a major determinant of household spending behavior and household size influences household saving and consumption. Larger households can expect that household size will eventually decrease, and therefore may be more likely to overspend than otherwise similar smaller households. Families with children have extra needs for expenditures such as child care, education, transportation, food and clothing, and therefore may be more likely to overspend than otherwise similar households without children. Furthermore, the children will eventually leave home, so it may be rational to overspend while the children are at home. Overspending behavior may differ across households because of differences in household composition. For instance, a household consisting of a single mother and a child may have different expectations than a married couple.

Households headed by a non-working person will have expenditures to maintain their day to day living, and may expect their income to increase when employed. Therefore, these households should be more likely to overspend than otherwise similar households with a working head. Self-employed respondents are likely to have fluctuating incomes and are less likely to have employer sponsored benefits. It is expected that self-employed households with and without vehicle purchases are more likely to overspend during the times in which their incomes are temporarily low.

Homeowners without mortgages have fewer

monetary commitments compared to owners with mortgage who are tied down with monthly payments. Because of this additional financial commitment home owners with mortgages may be forced to overspend when they incur unexpected maintenance or households operations expenditures.

Hong and Hong (1995) found that whites, Blacks, and Hispanics were significantly different from Asian households with respect to use of credit for vehicle purchases. It is possible that white households are less likely to experience income uncertainty than non-white households. Based on a lifecycle model with uncertainty, if Black and Hispanic households are more likely to experience income uncertainty, they should overspend less than otherwise similar white households. It is also possible that some minority households are less able to obtain credit to engage in rational overspending.

Households living in different regions spend differently because households need varies with geographic area. Rural households have a higher budget allocation to private transportation, health care, and tobacco and a lower allocation to housing, apparel, public transportation, entertainment, reading and education (Magrabi et al., 1991). Also households living in different regions pay a different price for vehicle purchases. Jung (1990) reported that consumers in small or middle size cities paid higher finance charges than those living in big cities. This study examines the overspending behavior of households with and without vehicle purchases living in Northeast, Midwest, West, Rural compared to households living in the South.

Households with a vehicle purchase may be likely to dissave in the year of the purchase, as the price, especially for a new vehicle, is high relative to the income of most households. It is possible for households that save a high proportion of income to purchase an automobile and not dissave in that year. For instance, if a household with an income of $100,000 typically saves 20% of income, then purchase of a vehicle using a trade-in of a vehicle may simply reduce the amount of saving devoted to financial assets during the year. However, households with more typical annual income and saving rates, e.g., 10% of income after taxes as reported by Bae, Lindamood and Hanna (1993), will by BLS definitions have to dissave if they purchase a new vehicle with a relatively low value trade-in.

Methods

Data

Data on expenditures and socio-demographic characteristics were drawn from the 1990-1992 Consumer Expenditure Survey (CES) conducted by the Bureau of the Census for the Bureau of Labor Statistics. For a description of the dataset used in this paper, see Jayathirtha and Fox (1996). All dollar values used in this study were adjusted to 1992 dollar values. Households reporting a negative income and those who did not provide complete income reporting were excluded. This left a sample of 7,545 households. There were 5,624 households without vehicle purchases and among those households, 1,974 households overspent. There were 1,921 households with vehicle purchases and among these 1,058 overspent.

Variable Measurement

The overspending measure was similar to the one used by Bae, Lindamood and Hanna(1993) used, with the exception of the treatment of vehicle purchases. Quarterly expenditures were summed to get each household's *annual total expenditure*. Social security payments (FICA) and pension contributions were subtracted from total expenditures as most of these payments were withheld by employers and were not available for regular expenditure.

The BLS defined after-tax family income was adjusted by subtracting FICA and pension contributions to obtain household *disposable income*. The income variable used in this research thus represents the amount a household can spend on current consumption, repayment of loans, and other forms of savings. The income variable was transformed to its natural logarithm to reduce hetereoskedascity and possible simultaneity problems in estimation.

Household *net financial assets* were calculated by subtracting debts from total financial assets. Total financial assets equal the sum of checking, brokerage, and savings account balances, money owed to the consumer unit, market value of all stocks, bonds, mutual funds and other such securities, and investment in own farm or business. Credit was defined as the total amount owed as of the last set of bills. All other independent variables were defined as dummy variables where a one means the consumer unit belongs to the group and a zero means that they do not.

The *spending to income ratio* establishing the threshold for overspending used in this study was similar to the ratio used in Bae, Hanna, & Lindamood

(1993). The spending to income ratio was defined as annual total expenditures divided by annual disposable income. (If income equaled zero, the ratio was computed as if income equaled 1.0.) As Bae, Hanna and Lindamood (1993) discussed, the ratio has extreme values and so is not easily amenable to use as a dependent variable when using estimation procedures sensitive to extreme variability, such as OLS. The distribution of the ratio in this study was similar to the distribution reported in Bae, et al. (1993), with a median value of 89% but a mean value of 422%. One fourth of the households spent less than 68% of their income, but 25% spent 123% or more of their income. The maximum value of the ratio was 1679300%. A dummy variable for overspending was created. A ratio value of greater than one was defined as overspending (coded as one), and a ratio value of one or less was defined as not overspending (coded as zero).

Multivariate Analysis

Multivariate models of overspending were estimated for households with and without vehicle purchases. Logistic regression was used to measure the independent effects of age, income, income stability proxies, education, family structure, employment status, race and region on the likelihood of overspending for households with and without vehicle purchases. Logistic regression is considered appropriate given the large number of explanatory variables and the limited distribution of the dependent variable--the decision to overspend. The empirical test for differences between households with and without vehicle purchases was conducted by estimating a full interaction model. In this full interaction model, a new variable was calculated to match each independent variable by multiplying the vehicle purchase dummy variable by each variable. These interaction terms were added to the model of overspending and the model was estimated using the full sample. In each case where the estimated coefficient for the interaction term was significant with 90% confidence there was statistical evidence of a difference between households with and without a vehicle purchase with respect to that independent variable. For details on testing the stability of regression coefficients across samples see Maddala, 1992, p. 318.

Description of the sample

Overall, 40% of households overspent, which was approximately the result reported by Bae, Hanna and Lindamood (1993). This result is slightly surprising given the different treatment of vehicle purchases in this study. About 25% of the households had vehicle purchases, and 55% of those households overspent. About three-fourths of the households did not have expenditures for a vehicle purchase and 35% of such households spent more than their take home income. The rate of overspending was above 45% for households with vehicle purchases across all age groups. Figure 1 shows the actual overspending pattern by age.

Overspending by vehicle purchase

The logistic regressions "predicted" overspending well. The concordant statistics (Table 1) indicate that the logit for households with vehicle purchases correctly predicted overspending for 82% of the households, and the logit for households without vehicle purchases correctly predicted overspending for 87% of the households. Age had significant effects for households without vehicle purchases but not for households with vehicle purchases. Households without vehicle purchases were more likely to overspend across all age groups relative to the oldest group who were 80 years and above. Households in the age group of 40 to 44 and 45 to 49 had the highest likelihood of overspending. Figure 1 shows the predicted patterns of overspending by age based on separate logits for the households with and without a vehicle purchase in the past 12 months.

For both those who had purchased a vehicle and those who had not, predicted overspending increased strongly with education. For those without a vehicle purchase, the predicted overspending rate for a household headed by a college graduate was 4.9 times as high as the predicted overspending rate for a household headed by someone with less than a high school degree.

Households with a Black non-Hispanic respondent without vehicle purchases were half as likely to overspend as otherwise similar households with a White non-Hispanic respondent.

Discussion

This study investigated the effects of lifecycle model indicators on household overspending behavior. The estimated results from logit analysis suggest that there are significant differences between households with and without vehicle purchases in terms of determinants of overspending. Clearly, overspending is common even for households without a vehicle purchase in the survey year. It should be noted that some of the households without vehicle purchases

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Table 1.
Logistic Regression of Overspending for Households With & Without Vehicle purchases

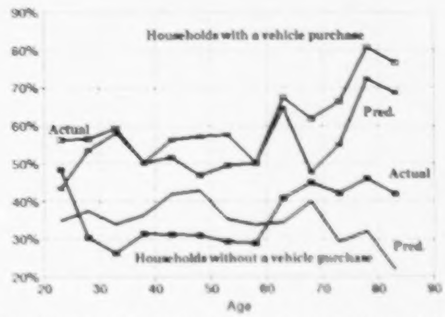
Independent Variables	With	Without	
Age<25	-1.291	0.534	~
Age 25-29	-0.887	0.658#	~
Age 30-34	-0.646	0.547**	
Age 35-39	-0.977	0.651**	~
Age 40-44	-0.758	0.913#	~
Age 45-49	-0.727	0.889#	~
Age 50-54	-0.701	0.591**	~
Age 55-59	-0.888	0.532**	~
Age 60-64	-0.401	0.588#	
Age 65-69	-1.029	0.823#	
Age 70-74	-0.719	0.339*	
Age 75-79	0.043	0.506#	
LN(Income)	-2.741#	-3.142#	~
Net financial assets	5.919E-6*	4.682E-6	
< high school	-0.279	-0.475#	
Some college	0.253*	0.431#	
College graduate	0.716#	0.930#	
Not working	0.208	-0.008	
Self employed	0.844#	0.452#	
Retired	0.307	-0.089	
Married	0.215	0.316*	
Widowed	-0.178	0.451#	
Divorced	-0.049	0.440#	
Separated	-0.438	0.411*	~
Family size=1	-0.256	-0.917#	~
Family size=3	0.273	0.744#	~
Family size=4	0.269	0.832#	~
Family size=5	0.408*	1.092#	~
Family size>=6	0.428*	1.245#	~
Have child<18	-0.053	-0.665#	~
Female head	0.445*	-0.066	~
Owner without mortgage	-0.506**	-0.396#	
Renter	-0.647#	-0.552#	
Other housing tenure	-0.107	0.795*	
Receive unem.comp.	-0.544**	0.076	~
Receive welfare	-0.711*	-0.640#	
Receive nontax.money	0.364**	0.499#	
Hispanic of any race	-0.313	-0.171	
Black non-Hispanic	-0.378	-0.553#	
American Indian	-0.006	-0.475	
Asian origin	-0.111	-0.122	
Northeast, non-rural	-0.077	0.329#	~
Midwest, non-rural	-0.438**	-0.163	
West, non-rural	0.085	0.527#	~
Rural(region not av.)	-0.368*	-0.211	
-2 Log likelihood	1981.41#	4783.33#	
Model Chi Sq.	661.83#	2506.06#	
Concordant	81.7%	86.6%	
Pseudo R^2	38.9%	49.5%	

* $p<0.1$, ** $p<0.05$, # $p<0.01$

~ implies significance of the variable in the full interaction model, thus coefficients of the two groups are not equal

might have auto installment payments, and the BLS would only count the interest portion of the loan payments as an expenditure. Therefore, in terms of more common household accounting practices, the percent of households without a vehicle purchase in the current year who overspend might be close to 40%.

Figure 1
Mean and Predicted Overspending Rate, by Age Group, for Households with (N=1921) and without (N=5624) a Vehicle Purchase in Past 12 Months.



Predicted rates based on separate logits, at mean values of other variables.
Households with 4 consecutive quarters of interviews during 1990-1992, BLS Interview Survey

Age had a significant effect on overspending behavior for households without vehicle purchases. Middle aged households (40-44 and 45-49) were more likely to overspend compared to respondents in other age groups. The results do not seem consistent with a simple lifecycle model. Note, however, that the lifecycle's predicted pattern of overspending by young and elderly households is based on typical income patterns over the lifecycle, whereas in the logistic regression, income is held constant. As Figure 1 shows, the actual overspending rates by age are consistent with the lifecycle model. There did seem to be a large increase in overspending (all other things equal) just after normal retirement (age 65-69). Among households with vehicle purchases, age did not have a significant effect.

As with the Bae, et al. (1993) results, all other things equal, more education was related to greater overspending, for both groups. To the extent that following the lifecycle model is considered rational, it could be said that more educated consumers are more rational. However, as Bae, et al. (1993) noted, more educated consumers might also expect higher future income than otherwise similar less educated consumers.

Implications

The idea that overspending is primarily a mistake is not supported by these results. In particular, the result that all other things equal, more educated households were more likely to overspend than less educated households does not seem to support the idea that overspending is the outcome of irrational behavior. The result that, among households without vehicle purchases, households with a Black respondent were only 58% as likely to overspend as otherwise similar white, non-Hispanic households may conflict with some stereotypes. Clearly, a more rational approach to the idea of spending and saving as income fluctuates over the lifecycle and over shorter periods may be appropriate in education and counseling.

Implications for Policy

The significantly lower rate of overspending by Black non-Hispanic households compared to otherwise similar non-Hispanic white households could be interpreted as evidence that credit discrimination may exist. As for the other patterns found, especially for overspending among those without vehicle purchases that year, they seem to reflect a combination of rational patterns (e.g., those with more financial assets are more likely to overspend) and circumstances (e.g., those who are divorced are more likely to overspend.) This research by itself may not provide much in the way of specific implications for laws regarding credit and bankruptcy, although the education effect suggests that much overspending is rational.

The results of the logits may seem to be mixed in terms of supporting the lifecycle model. The most obvious problem for the lifecycle model is the fact that non-vehicle purchasing households headed by someone age 40-45 are much more likely to overspend than are those headed by younger or elderly households. However, the simple lifecycle pattern is based on the typical pattern of lower incomes by young households and by elderly households. In the logit, income is controlled, so the pattern of greater overspending by older households is not necessarily contrary to the lifecycle model. The finding of a higher overspending rate by more educated households is, as suggested by Bae, et al. (1993), better explained by the lifecycle model than by other models.

There is an obvious risk of multicollinearity in the analysis, given the large number of independent variables used. This will not bias the estimates, but estimation will be inefficient and variances estimates may be biased upward, so that some variables will seem insignificant when they are actually significant. Bae, et al. (1993) used a stepwise procedure to deal with this problem, but other approaches could be considered. The similarity of the results suggests that many of the results (e.g., education) are robust enough to not be overly affected by multicollinearity.

Obviously, it would be interesting to explore a multivariate analysis of more than two levels of overspending. Methods such as ordered probit could be used. The results become much more difficult to discuss and explain when a more complex procedure is used. Clearly there is a difference between spending 101% of income and spending 200% of income. However, it is not straightforward to go beyond the use of a dichotomous dependent variable.

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Endnotes

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Information as a Key Determinant of Medicaid Managed Care Health Plan Enrollment

Aid to Families with Dependent Children (AFDC) Medicaid recipients in two rural Upstate New York counties were surveyed to identify factors which influenced their enrollment choice between two managed care health plans and the traditional Medicaid fee-for-service plan. Bivariate and discriminant statistical analysis give evidence that the Medicaid client who actively engages in discussions about their health plan choices will be more likely to enroll in a managed care plan. There is also evidence that the information environment, including the Department of Social Services and insurance company representatives influence this decision. Forty-one percent of the Medicaid individuals who choose the traditional Medicaid fee-for-service plan reported that they didn't understand what managed care was.

Lois Wright Morton, Cornell University[1]

Consumer decision making about health insurance and health provider choice, once a set of two independent decisions, has become under managed care structures a simultaneous decision. Market restructuring in health insurance and health provider systems require consumers readjust and reevaluate how they make their personal health decisions.

Asymmetric information in health care decision making has been a historical and continuing issue for consumers. Consumers are frequently the group with the least information despite a high stake in the outcome. This is evident when consumers choose health care providers, in patient-physician relationships, in prescription drug purchase and use, and in alternative technology decisions about treatments for diagnosed conditions. Consumers often do not have and/or are not motivated to access and use available information to make health care decisions. The health care market shift to managed care has intensified the information gap between individuals as purchasers of health insurance plans (and the resulting services) and those providing health services.

Models of Managed Care Enrollment Choice

In this study of Medicaid managed care enrollment, I examine the factors which influence the choice of a particular type of health plan: either a fee-for-service or managed care plan. The following questions are asked: Are there barriers that prevent the Medicaid individual from knowing he/she has a choice? Once the Medicaid individual knows that choice is available, are there factors within his/her environment or personal characteristics that predispose him or her to a particular type of plan? Does the enrollment environment, the institutions that provide information and administrative enrollment, affect the individual's decision? Why do some individuals choose to remain in the traditional fee-for-service Medicaid health care plan and others choose to enroll in one of several Medicaid managed care plans?

Three conceptual models from the literature on managed care enrollment choice provide a framework for the development of a Medicaid managed care enrollment choice model. The first model of managed care enrollment choice was developed by Acito (1978). He identified two sets of variables: 1) consumer characteristics including demographic attributes, attitudes and beliefs about health; and 2) characteristics of the delivery system such as cost, services covered by insurance, access and convenience.

A second model of enrollment choice was developed by Berki and Ashcraft (1980). Their rational choice model of HMO enrollment choice postulated that consumers trade off between insurance characteristics and delivery system characteristic to achieve the best mix to meet individual or family needs. Their model specified financial vulnerability and health risk perceptions as major intervening variables. They reported that within the middle income range there was a trade-off between the insurance and delivery characteristics of plans, i.e., between expenditures (cost) and access to a familiar provider.

A third model by Klinkman (1991) broadened the concept of enrollment choice and environmental constraints by recognizing that the set of plans offered to the consumer are constrained by the contracts between employers and insurance companies. It is only after a set of plans are negotiated and financed by employer-insurance company agreement that the employee is presented with a menu of health plan choices. Klinkman's two-stage model uses a rational choice model with the second stage, the consumer's choice of health plan, consisting of three steps: 1) consumer identifies an ideal health plan, 2) consumer identifies the set of available choices and chooses a plan based on economics of the decision and service characteristics of the plan, and then 3) through a feed back loop asks, "How satisfied are we?" Klinkman suggests that this process is overlaid by consumer information processing but he does not operationalize it.

All three models of managed care enrollment suffer from two fundamental problems: they are rational choice models which assume an optimum decision without specifying information variables and they model employer-employee relationships. Although consumer information processing is acknowledged by both Acito and Klinkman, little attempt has been made to fully conceptualize or operationalize information processing as it occurs in health plan decision making. Sofaer and Hurwicz (1993) comment on this inadequacy and propose a model that explicitly includes level of knowledge of available insurance options and sources of influential information. Many economists have identified informed consumer choice as not only a benefit to the individual consumer but also as a pre-requisite to better functioning health care markets (Sangl and Wolf 1996). However, Sainfort and Bookse write that "little is known about how consumers will use information and what impact, if any, the information will have on their health plan selections (Sainfort and Booske 1996 p. 31).

Berki and Ashcraft's rational choice model assumes consumers' maximize their utility. There is substantial literature that indicates that consumers do not maximize their utility and often make decisions that are not "best" decisions. Behavioral economists call this "bounded rationality;" that is consumers often seek a satisfactory decision not a perfect one (Simon and Newell 1971). Consumers frequently do not invest the time or energy that is necessary to identify options, collect and evaluate information, and make optimal decisions. The economist Stigler (1961) found that consumers do not have perfect information to make decisions because different individuals place different values on the cost and benefit of collecting information to make a decision. In their study of selection of health care providers for children, Stewart et al. (1987) reported that parents used simple heuristics for decision making rather than engaging in extensive search activity postulated by a rational choice model. J. Edward Russo (1988) concluded that consumers use product information only when its perceived benefits exceed its costs. These costs include nonmonetary considerations of processing effort, level of annoyance or tediousness of process, and hospitableness of the environment.

The second problem with the three models discussed above is specific to Medicaid managed care enrollment choice. Most previous studies of managed care enrollment choice are based on employee decisions about employer offered health plans. Few have examined how the Medicaid recipient responds to government paid plans. In a Medicaid model, consumer financial vulnerability, particularly ability to pay health plan premiums and out-of-pocket expenses, plays little to no role; the insurance and delivery system dominate the decision making process. Although a public insurance program, Medicare health care enrollment has financial incentives to trade costs and other plan attributes, making it in many ways more similar to employer offered plans than Medicaid plans. Berki and Ashcraft's (1980) examination of HMO enrollment research found that there is "support (for) Brice's contention that where no financial vulnerability for care exists, the health risk factors that are usually predictive of enrollment become less salient to the enrollment decision than the characteristics of the delivery setting."

While the Medicaid consumer doesn't have financial vulnerability, the government does, and it is the policies of the Departments of Health and Social Services at local, state, and national levels about Medicaid benefit packages and delivery systems that structure the enrollment decision presented to the Medicaid client. A modification of Klinkman's two-stage model substitutes the government-insurance company contract relationship (stage one) for the employer-insurance company with the same results: a pre-chosen set of health plans offered to the Medicaid individual. This study focuses on the second stage, the relationship between different government chosen plans and the Medicaid recipient enrollment choice.

A Medicaid Managed Care Enrollment Model

A Medicaid managed care enrollment conceptual model can be constructed by combining Medicaid consumer characteristics with the enrollment environment to create points of information integration and processing.

Consumer characteristics include demographics, perceived and objective health risks, and information seeking behaviors. The enrollment environment contains health insurance and the health care delivery system as well as information supply. Experience and satisfaction with the insurance plan and the delivery system, mediated by consumer and enrollment environment characteristics, provide a continuous feedback loop. Choice occurs when the organizations within the environment provide a decision opportunity. If the individual does not take advantage of the decision opportunity, choice has been made by default. The larger environment, that is the organizations which determine which plans will be offered and how often enrollment and disenrollment can occur, pre-structures this decision for the Medicaid individual. Thus the choice of a health care plan is determined by the interaction that occurs between consumer characteristics, the enrollment environment, and continuous feedback from experiences and satisfaction.

Testing the Model

Study Population and Research Procedures

Two rural upstate New York counties who offered managed care plan options to AFDC Medicaid individuals for the first time in Fall, 1994 were chosen as the site for this study. Permission-to-contact for research slips were systematically placed in certification and recertification file packages by the Departments of Social Services, beginning in January, 1995 through June 30, 1995 for one county and March 1-August 31, 1995 for the second county. All Medicaid persons who completed the permission-to-contact slips and marked "yes, you may contact me to participate in this project" were contacted by telephone or in person at their listed address.

A questionnaire was developed for a telephone interview of about thirty minutes. The survey included both closed-end and open-end questions about the Medicaid individual and the enrollment environment based on the conceptual model. A pre-test questionnaire was given in-person to five Medicaid individuals from a different county. Questions were revised for clarity and retested on three additional individuals in person and eight telephone interviews. Medicaid individuals selected for the sample who could not be reached by telephone were contacted in person at their place of residence. A training manual was developed for training telephone interviewers and in-person interviewers to provide consistent data collection. Telephone interviewers were monitored for adherence to the questionnaire and consistent interview behaviors.

A total of 303 people agreed (28 persons marked "no") to be contacted for participation in the project. Two hundred and one persons successfully completed the interview by telephone and twenty people were successfully located and interviewed in person for a total of 221 interviews. Reasons for incomplete interviews included 14 refusals, 26 people with wrong or disconnected numbers, 8 persons not eligible for Medicaid any longer, 8 persons who moved out of county and 26 who could not be located in person or by telephone due to incomplete information. Two groups were identified for analysis: one consisting of those who had enrolled in a Medicaid managed care plan and a second group consisting of those who enrolled with the traditional fee-for-service Medicaid health plan. Two Medicaid individuals reported that they did not know what kind of Medicaid plan they were enrolled in and interviewers were unable to discern based on interview information. Sample analysis was conducted on 219 cases for a response rate of 75.8% (331-42 not eligible =289, 219/289=.758).

The Medicaid enrollment process in these two counties was very similar. Medicaid individuals eligible for recertification were mailed a re-enrollment packet which included Medicaid managed care plan information. During their in-person visit with the Department of Social Services (DSS), individuals were given an opportunity to talk with a DSS worker who explained the managed care plans. During this visit or after, the Medicaid individual could also call and talk to a managed care company representative. There was no direct marketing of managed care companies to Medicaid individuals through door-to-door or direct sales. However, managed care companies in this region actively advertised managed care health services through billboards, radio, and other media to the commercial market and potentially had name recognition to some Medicaid individuals.

Results

Sixty-seven percent of the Medicaid sample reported enrollment in a Medicaid managed care plan. Thirty-three percent reported that they were in the traditional fee-for-service Medicaid plan.

The fee-for-service and managed care groups were similar in their demographic characteristics. This was not unexpected since those eligible for AFDC and Medicaid benefits are in their childbearing years and comprise the lowest income distribution of the population with many of the accompanying traits relating to employment and marital status. The sample was predominantly female, 31 years (mean) old with two children (managed care=2.19 children; fee-for-service=2.08). Family size did not significantly differ between the two groups. Eighty-five percent of the fee-for-service group were single parents compared to 79 percent of the managed care group. The most frequent occupation for both groups was homemaker.

Medicaid health risk variables representing health status and health care utilization were not significantly different between groups. Approximately one-third of both groups reported themselves in fair or poor health. The managed care group reported a mean 1.68 medical conditions; similarly the fee-for-service group reported 1.66 conditions. The mean number of self-reported doctor visits for the respondents and children was 20 or about 6.6 per person per year. Self-reported emergency room usage averaged about two and half visits per year per household, with the fee-for-service group using the emergency room slightly more (2.73), but not significantly, than the managed care group (2.27).

Although it was expected that health beliefs and behaviors would be associated with enrollment choice, there was very little difference between the two groups. Two exceptions were related to smoking and drinking. The fee-for-service group thought smoking affected a person's health more than the managed care group, even though both groups self-reported smoking about the same. Although a little less than half of both groups report drinking (46 percent of managed care group and 48 percent of fee-for-service group), the fee-for-service group reported on average a greater number of drinks at one sitting.

The last group of consumer characteristic variables is information seeking behaviors. The proxy for ability to seek out information, education, was not significantly different between the two groups. Both groups reported a mean education level of high school/GED. Motivation to seek out information however did display significant differences between the managed care and the fee-for-service group. The managed care group was more likely to actively engage in information seeking behaviors. Eighty-two percent of the managed care group reported having read managed care materials given to them compared to 57.5 percent of the fee-for-service group. Twenty-nine percent of the managed care group brought DSS mailed managed care information with them to the Medicaid enrollment meeting compared to 14 percent of the fee-for-service group.

While the consumer characteristics of the fee-for-service group and the managed care group are similar, enrollment environment variables identify group difference. Individuals were asked to give reasons why they chose to enroll in a Medicaid managed care plan. Respondents could choose none, one, some, or all of the categories. As part of the enrollment environment, the existence of a list of physicians to chose from and the information supply about managed care and the health care delivery system were important influences towards managed care. The largest number of those enrolled in managed care selected it because they felt that it offered better quality of care (81.5 percent) than their old Medicaid plan. Access to a doctor was the second greatest factor for choosing managed care, including finding a doctor and getting an appointment with him/her (65.8 percent). Sixty-two percent of those enrolled in a Medicaid managed care plan reported that they did not have a regular doctor. Recommendations from health professionals (42.5 percent) and advertising (34.9 percent) were considered by a great number of the sample to have influenced them.

Those who didn't sign up for Medicaid managed care most often cited lack of understanding about managed care (41.1 percent) as the reason for not enrolling. Almost a quarter of the fee-for-service group reported that they didn't know they could enroll in a managed care plan. One-third of the fee-for-service group did not change because the current way their Medicaid plan was working seemed to be fine and they saw no reason to change. Nineteen percent said their current doctor was not in managed care so they didn't want to change.

Information from the environment, both internally and externally supplied information, was significantly different between the two groups. Most respondents in the managed care group (95 percent) remembered the managed care option, only 68.5 percent of the fee-for-service group remembered the offer. More than three-quarters of the managed care group discussed their health plan sign up with someone, most frequently someone from DSS or a DSS managed care worker. In contrast, only 37 percent of the fee-for-service group had discussed the decision with someone. During the enrollment process, the Department of Social Services (DSS) played an important role as a formal structure providing medical health plan benefit information. Those who enrolled in managed care twice as often mentioned a DSS managed care worker (68.5 percent) as a person they talked with compared to 33 percent of the fee-for-service group. Almost one-third of the managed care group talked with a managed care company representative, less than 7 percent of the fee-for-service group talked to a company person.

More than two-thirds of both groups remembered seeing public advertising through the television or newspapers about HMO's and managed care. Many were yet unclear about it. One-fourth of the managed care group and one-third of the fee-for-service group admitted they either didn't know if there was a difference between fee-for-service and managed care plans or said there was no difference. Number of years in the Medicaid system, the proxy for experience and satisfaction that provided evaluative feedback information for the enrollment decision, did not differ significantly between the two groups. Both groups entered the decision process after being on Medicaid fee-for-service an average (mean) of 4.65 years. The fee-for-service group was enrolled in Medicaid on average (mean) six months longer than the managed care group.

Discriminant analysis

To identify a parsimonious set of factors related to Medicaid enrollment choice, variables representing consumer characteristics and the enrollment environment were entered into discriminant analysis. Discriminant analysis is used to study the differences between two or more groups with respect to several variables simultaneous contribution and to classify cases into the groups (Klecka 1980). We were interested in how fee-for-service and managed care groups differed based on some set of characteristics and wanted to identify a combination of these groups characteristics (called the discriminant functions) to predict enrollment in a managed care and fee-for-service plan.

Twenty variables were included in the discriminant analysis. Consumer variables were married or living with a partner, homemaker, general health, number of medical conditions, number of doctor visits, number of emergency room visits, current smokers, frequency of alcohol consumption, exercise, number of hours of sleep, education, did you read Medicaid enrollment materials, did you bring managed care enrollment materials to your DSS visit? Environment variables were did you discuss managed care with a DSS person, did you discuss managed care with family or friends, did you discuss managed care with company representative, no one discussed managed care with you, were you offered a chance to enroll in a Medicaid managed care health plan, have you seen any advertising about managed care? Number of years enrolled in Medicaid was used to represent experience with Medicaid.

Seven discriminating variables (marital [.25444], current smoker [.33872], frequency of alcohol consumption [-.29709], discussion with DSS [.56829], discussion with managed care representative [.50215], were you offered a chance to enroll [.54885], and no one talked to me [-.28307]) were found to be significant and were combined to form the discriminant function. The canonical correlation for this function was .5283. This correlation is a measure of association which summarizes the degree of relatedness between the managed care and fee-for-service groups and the discriminant function. The question we are asking is "how useful is the discriminant function? Are the two groups really different on these combined variables?" Our answer is modestly so. Chi square is significant and indicates that results do come from differences between groups. Group centroids are used to measure how distinct these two groups are in space. They provide a summary of each group position through the "group mean" (ffs= -1.045 mc=.5262). From examining these centroids we can say that they are distinct and in different locations in space.

Conclusion

Bivariate and discriminant analysis give evidence that environmental variables relating to information sources about Medicaid and managed care plan enrollment options are important determinants of voluntary Medicaid managed care enrollment. Medicaid health behaviors, smoking and frequency of alcohol consumption, also influence enrollment choice. Smoking is associated with Medicaid managed care choice, increasing frequency of alcohol consumption is associated with fee-for-service Medicaid choice. Married or living with a partner is associated with managed care enrollment.

Although, some consumer characteristic differences are evident between Medicaid managed care and fee-for-service enrollees, the strongest findings of this research is the role of the information environment in influencing the choice of health plan. The Department of Social Service enrollment process strongly affects Medicaid individuals. Discussion with DSS workers and company representative were important indicator of managed care enrollment. As state Medicaid plans move from voluntary to mandated managed care, the information process will continue to be a critical component of the Medicaid enrollment program. Our results support the active engagement of Medicaid individuals in discussions about managed care and the attributes of each plan. I would like to note a couple of limitations of this study. Information processing is a iterative process of collecting and reformulating information. Although information seeking behaviors and information supply have been separated out conceptually, this is an artificial construct. Even with cognitive testing, it is hard to differentiate which comes from within the consumer and which is due to external environmental influences. Secondly, information supply has focused on information source. This is a narrow definition and misses the detail of form and type. Andrews et al. (1989) examined the effects of five communication methods for Medicaid HMO health plan enrollment information and found that each method was most effective with a different type of beneficiary. Additional research in this area will help tailor educational efforts to meet information needs of Medicaid individuals.

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Endnotes

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An Event History Analysis of the Retirement Process

This study identifies and quantifies the impact of variables that affect the length of the retirement process. Data from the National Longitudinal Survey of Labor Market Experience and event history analysis are used. Results are compared for two different definitions of retirement. The study affirms the findings of studies that acknowledge the existence of a retirement process. However, we find fewer variables associated with length of the retirement process than are related to the decision to retire.

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There is evidence in recent literature to support retirement as a process, often called "bridge employment" (Doeringer, 1990; Reitzes, Mutran & Fernandez, 1996; Ruhm, 1995). However, despite the availability of a very large literature in the area of retirement, little is known about this process because much of the research has characterized the retirement decision as a single event. This paper estimates the length of the retirement process using event history analysis. Utilizing two different definitions of when a person is retired, one psychologically and one behaviorally based, the impact on the retirement process of several variables representing individual and family characteristics and characteristics of pre-retirement job is obtained.

Literature Review

Ekerdt and DeViney (1990) review retirement definitions and neatly classify definitions of retirement into five separate categories, each with positive and negative aspects. These categories are: separation from a career, exit from the labor force, reduced effort, pension receipt and self definition. A huge economics based literature using these definitions or combinations of these definitions exists. The majority of these studies have treated the criteria used to define when retirement takes place and the retirement decision as one. That is, when the criteria are met, the individual is retired. However, while most economic studies of retirement have characterized retirement as a dichotomous variable, some have examined retirement timing decisions in the broader context of a process, such as the phenomenon of becoming re-employed after retirement (Berkovec & Stern, 1991; Blau, 1994; Honig & Reimers, 1987), that of "partial retirement" (Honig & Hanoch, 1985; Quinn, 1981), and the concept of "bridge" employment (Quinn & Burkhauser, 1994; Quinn, Burkhauser & Myers, 1990; Ruhm, 1995). Current literature provides evidence of a transitional stage in the retirement process and indicates that between 25 and 40 percent of individuals utilize bridge employment as a route to retirement (Quinn, Burkhauser & Myers, 1990; Ruhm, 1995). When bridge employment has been specifically addressed, wealth, personal characteristics including race and number of dependents, and characteristics of job have been found to be important (Quinn, Burkhauser & Myers, 1990).

Social scientists in fields other than economics have acknowledged retirement as a process and suggest that work after "retirement" or shifts in work patterns before a complete labor force separation is due to how individuals define their role in society. There is some evidence that working after retirement or a flexible retirement process leads to better adjustment to the retirement years (Cliff, 1991; Dillard, 1982; Reitzes, Mutran & Fernandez, 1996; Richardson & Kilty, 1991; Soumerai & Avorn, 1983; Viney & Tych, 1985). These results fit with the assertion that "work" was a primary descriptor of "manhood" for men who were born in the first quarter of the century (Astrachan, 1986; Gaylin, 1992; Pasick, 1990).

In order to explore the timing of the retirement process, the identification of the beginning and ending of the retirement process, i.e., from employment to the point after which no work activity occurs is necessary. This study characterizes this process for adult males in the United States who experienced retirement between 1966 and 1990 and estimates the effect of various factors on the length of that process. As Ekerdt and DeViney (1990) point out, the definition chosen to use in any empirical work should be related to the type of empirical question being asked. Because retirement inherently encompasses both social and economic aspects, we use two different criteria to define retirement, one psychologically based (self reported retirement) and one behaviorally based (receipt of social security or pension).

Methodology

In order to examine the process of retirement, we employ the method of event history analysis. Because our research question is related to the time interval between two events -- beginning and ending of the retirement process -- and the second event does not occur to everyone over the observed period, Cox regression is used to accomplish the objective. This technique reveals how independent variables affect the likelihood of an event continuing into the next time period. In the case the retirement process, Cox regression allows us to examine how characteristics of an individual, their family, and their pre-retirement job affect the length of time from the initiation of the retirement decision to "full" retirement as defined by two different criteria. In Cox regression, the cumulative survival function or the hazard function is the dependent variable.

The Cox regression model with multiple independent variables is written:

$$S(t) = [S_0(t)]^P \tag{1}$$

$$P = e^{(B_1X_1 + B_2X_2 + \dots + B_nX_n)} \tag{2}$$

where $S(t)$ is the cumulative survival function (proportion of cases "surviving" at a particular time), $S_0(t)$ is called the baseline survival function, and, for simplicity, $B_1X_1 + \dots + B_kX_k = g$.

Data

Data from the Older Men's cohort of the National Longitudinal Survey of Labor Market Experience (NLS) are used in this study. This is a panel data set collected from 1966 through 1990 by the Bureau of Labor Statistics, U.S. Department of Labor. Data forming part of the older men's cohort include an original sample of 5,020 men who were age 45-59 in 1966.

To determine when an individual is retired the individual's actual work behavior was tracked from 1966 through 1990. This tracking is done in two passes over the full data set, once for each of the two criteria used to define when retirement occurs. Once an observation is classified as retired using each of the two criteria (self reported and receipt of pension or social security), the length of time from the beginning to the end of the process is calculated. This length of time becomes the dependent variable in the event history analysis.

As with all longitudinal studies, the data set is limited by attrition of the sample. Of the 5,020 individuals who began the survey in 1966, 83.2 percent remained in 1971. That number fell to 56.4 percent in 1981, which left 42 percent of the original 5,020 in 1990. Our aim was to track individuals until retirement. Therefore, most of the attrition problem due to death is of lesser concern in this study, as the majority of respondents could be tracked through their retirement process before death. The number of individuals who were actually assigned a retirement timing process (or still working) differed according to the criteria used to define when retirement occurred. 92% of the original sample were classified using the receipt of pension or social security criteria and 74% of the original sample using the self report criteria.

Explanatory variables used in the analysis are those found to be important predictors of retirement in previous research studies: characteristics of the respondent's pre-retirement job, personal characteristics, family characteristics, and a set of control variables for factors known to impact work behavior.

The model is estimated on four different age groups: 55-61, 62-64, 65 and over age 65 when the retirement process began. Diagnostics using the log-minus-log (LML) survival plot indicated that the baseline survival rates for each age group are not proportional. Thus, when estimating the length of the retirement process (survival until retirement), the different age groups are treated as separate strata.

Definitions and summary statistics are provided as Table 1. Fifty-six percent of the sample reported an average length of 3.31 years for the retirement process for those defined as retired by self report. Sixty-seven percent of the sample reported an average length of 4.08 years for those defined as retired by receipt of pension or social security. These are at the upper end of what others have reported in the examination of bridge employment before retirement (Quinn, Burkhauser & Myers, 1990; Ruhm, 1995).

Empirical Framework

Recall equation (1) and (2) where (2) equals $P = e^g$. To operationalize the model, we define g:

$$g = \beta_1 COW + \beta_2 DEP + \beta_3 EDUC + \beta_4 HLIMR + \beta_5 HLIMSP + \beta_6 INOUT + \beta_7 JOBSAT + \beta_8 MARITAL + \beta_9 NWINC + \beta_{10} OCC + \beta_{11} PENS + \beta_{12} RACE + \beta_{13} RETPL + \beta_{14} SALR + \beta_{15} SALSP + \beta_{16} TRANS + \beta_{17} UNEMP + \beta_{18} UNION + ERROR$$

where the listed variables correspond to the measures outlined in the previous section.

The following list of hypothesized directions of effects is gleaned from previous research that examined the factors that are associated with the retirement event or bridge employment taking.

1. Increases in age at the beginning of the retirement process will *decrease* the length of the retirement process;
2. Being classified as a minority will *increase* the length of the retirement process;
3. Having a health condition that limits a respondent's ability to work will *decrease* the length of the retirement process;
4. Being married and having a spouse with a condition that limits her ability to work will *increase* the length of the retirement process;
5. Still having dependents living at home when the retirement timing event occurs will *increase* the length of the retirement process;
6. Higher salary earnings of the respondent when the retirement timing event occurs will *decrease* the length of the retirement process;
7. Higher salary earnings of the spouse when the retirement timing event occurs will *increase* the length of the retirement process;
8. Higher non wage income levels when the retirement timing event occurs will *decrease* the length of the retirement process;
9. Being employed in a non-hazardous occupation before retirement will *increase* the length of the retirement process;
10. Increases in job satisfaction will *increase* the length of the retirement process;
11. Being self-employed before retirement will *increase* the length of the retirement process;
12. Increases in the unemployment rate will *decrease* the length of the retirement process;
13. Planning to continue working after retirement will *increase* the length of the retirement process;
14. Increases in educational attainment will *increase* the length of the retirement process;
15. Being eligible to receive a pension will *decrease* the length of the retirement process;
16. Membership in a union will *decrease* the length of the retirement process; and
17. Following periods in and out the labor force as opposed to retiring gradually with *increase* the length of the retirement process.

Results and Discussion

In the third and fourth numerical columns of Table one, information is provided about the estimated coefficients on each of the covariates included in the model. The age stratification variable shows a different process length for each defined age group. Of the independent variables, only three produce significant results under both the behavioral and psychological criteria that define when the retirement process begins: health limits of the respondent, the way in which the process occurs and levels of non wage income (hypotheses 3, 8, and 17). Presence of health limits and increases in non-wage income levels decrease the survival rate (the time it takes to fully retire). Following periods in and out of the labor market (in comparison with gradually reducing hours) increases survival rates. For the self reported criteria, being satisfied with pre-retirement job, reporting plans to work after retirement, higher salary of spouse, if married, and increases in the unemployment rate all increase the time to retirement (hypotheses 7, 10, 12, and 13). Participation in a pension plan and increases in respondent salary decrease time to retirement (hypotheses 6, 15).

For the receipt of pension or social security criterion, fewer, and different covariates are significant. Being self-employed or in a non-hazardous occupation before retirement and being non-white increase the survival time of the retirement process (hypotheses 2, 9).

Therefore, when examining the length of the process of retirement, only three of seventeen null hypotheses based on previous research can be rejected using both of the criteria to define when retirement occurs. Seven others can not be unequivocally rejected and depend on whether one is interested in policy implications resulting from a behaviorally or psychologically based definition of retirement. If one is interested in the psychological definition of retirement, then a total of nine of the seventeen null hypotheses are rejected. Using this definition, it appears that both economically based co-variates, and

Table 1. Descriptive Statistics and Parameter Estimates--Length of Retirement Process

Variable	Definition	Descriptive Statistics		Estimated Coefficients	
		Self-report	SS/Pension	Self-report	SS/Pension
LENGTH	length of retirement process (dependent variable)	3.31 (3.51)	4.08 (3.93)	---------	---------
AGECAT	stratifying variable 1= 55-61 2= 62-64 3=65 4=>65	.22 .16 .04 .14	.37 .17 .04 .09	---------	---------
COW	= 1 if self employed	.15 (.35)	.13 (.35)	.0061 (.04)	.08*** (.03)
DEP	= 1 if dependents are living in home of respondent	.25 (.43)	.22 (.41)	.04 (.03)	.008 (.02)
EDUC	education in years	9.12 (3.91)	9.35 (3.92)	.01 (.007)	-.01 (.02)
HLIMR	= 1 if health limits work of respondent	.42 (.49)	.43 (.49)	-.05*** (.02)	-.03** (.01)
HLIMSP	= 1 if health limits work of spouse	.26 (.44)	.27 (.44)	.03 (.03)	-.02 (.02)
INOUT	= 1 if retirement process is periods in and out of labor force	.07 (.25)	.35 (.45)	.44*** (.04)	.84*** (.02)
JOBSAT	= 1 if satisfied with pre-retirement job	.69 (.46)	.53 (.49)	.12*** (.03)	.03 (.02)
MARITAL	= 1 if married	.79 (.41)	.71 (.45)	.02 (.03)	.04 (.03)
NWINC	non-wage income in year before retirement	7032 (14,067)	7475 (14,005)	-3.1E-06** (1.72E-06)	-2.49E-06** (1.19E-06)
OCC	= 1 if employed in non-hazardous occupation	.71 (.46)	.69 (.46)	.00 (.00)	.53*** (.02)
PENS2	= 1 if participates in pension plan	.60 (.49)	.45 (49)	-.18*** (.03)	.01 (.02)
RACE	= 1 if non-white	.29 (.46)	.30 (.46)	.02 (.03)	.04* (.02)
RETPL	= 1 if respondent plans to work after retirement	.23 (.42)	.25 (.44)	.08*** (.03)	.04 (.03)
SALR	salary of respondent in year before retirement	17,673 (17,140)	15,681 (17,090)	-3.41E-06** (1.59E-06)	1.43E-06 (1.14E-06)
SALSPL	salary of spouse in year before retirement	2,938 (7,196)	2,238 (6.098)	5.39E-06* (3.28E-06)	-2.11E-06 (2.32E-06)
TRANS	transfer income in year before retirement	173 (1161)	127.8 (805.5)	-4.8E-05*** (1.56E-05)	-1.79E-05 (2.51E-05)
UNEMP	unemployment rate in region of residence	7.04 (2.95)	6.61 (4.19)	.04*** (.00)	.002 (.007)
UNION	= 1 if belonged to a union before retirement	.36 (.49)	.27 (.44)	-.02 (.03)	-.003 (.02)
N	Number of observations			3684	4639
Chi-sq				212.98***	1447.81***

psychologically based co-variates are important in describing length of the retirement process. Not only are income related factors important, such as earnings of self, earnings of spouse, non wage and transfer income, so are perceived health limits, satisfaction with job, and retirement plans. When a behaviorally based definition of retirement is used, type of worker and type of occupation are important, as is race and non wage income. The psychologically based indicators associated with employment are not significant.

Although each of the retirement timing criteria lead to differences in the significance of many of the covariates, the direction of effects in both survival models coincide. And, the overall significance of both

Table 2. Percent Surviving (still retiring) After Two, Four, Six, Eight, and Ten Years

Age Group When Retirement Process Begins								
55-61			62-64		65		>65	
Years of Process	Self Report	Pension/ Social Security	Self Report	Pension/ Social Security	Self Report	Pension/ Social Security	Self Report	Pension/ Social Security
2	90	78	82	62	83	62	55	60
4	64	55	52	25	35	17	22	25
6	29	20	23	7	14	8	14	9
8	14	12	14	4	13	7	13	5
10	13	5	12	1	12	6	11	1
65-71			72-74		75		>75	
Age Group After 10 Years of the Retirement Process								

equations is high. Table 2 identifies the cumulative survival rate after two, four, six, eight, and ten years of the retirement process by age group when the process began and definition of retirement. Overall, two general statements can be made about the results. First, for all but the oldest age group (>65), more individuals survive(remain in the retirement process) when retirement is self reported than when the objective measure is used. Second, the largest drops in the survival rate occurs after four and six years, regardless of age group or definition of retirement. However, there are wide variations in the actual predicted cumulative survival rate. After two years of the retirement process, the two definitions of retirement timing yield between at 9 and 33 percent difference in the cumulative proportion of the sample surviving, with the largest difference predicted for the age 65 at the beginning of retirement group and the smallest for the over 65 age group. After four years, the range of predictions are between 13 and 100 percent, with the largest difference predicted for the age 62-64 age group and the smallest difference for the over 65 age group. The gap narrows as the number of years for the retirement process increases to six, eight, and ten years. By eight and ten years, the largest difference is in the 62-64 age group.

This paper addresses an issue as yet relatively untouched in the economic literature regarding retirement: given that retirement is a process, how long does it actually take and what are the factors that influence that length? Other research has pointed out the existence of "bridges to retirement" (Doeringer, 1990; Ruhm, 1995). This study reinforces those findings and goes further and concludes that many of the factors found to be associated with the existence of bridge employment are not significant when examining the length of the retirement process. And, only three of those factors, health limits, type of process, and level of non wage income, affect the length of process across definitions of retirement. When definitions of retirement are examined individually, other significant factors do not coincide. These results contradict findings of others, who conclude that criteria used to define when retirement occurs matter little in the estimation of retirement (Ekerdt & DeViney, 1990; Palmore, Burchett, Fillenbaum, George & Wallman, 1985). However, these studies examined the retirement process as a single step, from work to retirement. It appears that when retirement is treated as a process, definition matters a great deal. More attention should be paid to the phase in an individual's life if we are to gain a fuller understanding of the well-being of individuals as they age.

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Endnote

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Financing Long Term Care: A Family Perspective of Private and Public Responsibility

This study provides insight into financing long term care decision making through a family policy lens. In-depth interviews with 45 families coping with long term care decisions provide insight into the role public and private resources play in paying for community-based and nursing home care, and the dynamics surrounding Medicaid estate planning decisions. Four criteria are recommended for policymakers to consider if long term care delivery and financing is to be improved for elders and their family members as the ultimate consumers of long term care.

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There is no doubt that the existing long term care financing "system" is proving costly in many ways to the chronically ill, their families, and bureaucracies involved. Many questions exist about the role private family resources as well as government programs (such as Medicaid) can and/or should play in financing long term care. Medicaid-related headlines and ads for professional advice on "avoiding nursing home costs" have led policymakers to ask if elders are qualifying for and using Medicaid who don't really "need" it? Are families engaging in Medicaid estate planning, a practice of intentionally and legally transferring wealth to family members to qualify for Medicaid coverage and avoid using personal assets to pay when long term care is needed? What family resources are really being used to meet the care needs of elders?

How one goes about understanding the role private and public resources play in long term care of elders depends in part upon whether one takes a family or fiscal policy perspective. A majority of existing research has taken a fiscal policy perspective and has attempted to examine the impact of how resources are being used on state or federal government expenditures. In this study, the focus is on examining the financing of long term care decision making, including Medicaid, largely through a family policy lens. This means understanding from family members coping with long term care decisions what impact current long term care policies and options have on family decisions about providing and paying for long term care. Utilizing such a lens provides insight into how long term care systems, including government programs and policies can be improved to be more "family friendly."

Specific questions addressed in this study include: 1) Are elders planning ahead to protect against long term care risks; 2) What types of family and government resources are being utilized to plan for or protect against the risks of long term care; and 3) What decision making processes and dynamics impact Medicaid estate planning. Answers to these questions can help inform policy as decisions are made about how to allocate scarce resources to protect an increasingly elderly population against financially catastrophic long term care costs. The answers also provided insight for consumer educators regarding needed content and potential target audiences.

A few comprehensive studies have been published to determine the scope and prevalence of Medicaid estate planning. To date, most research has focused on understanding the impact of Medicaid estate planning on state budgets (Moses, 1990; Minnesota Department of Human Services, 1996) or nursing home use (General Accounting Office, 1988), rather than how families arrive at decisions or the impact of financing options on families. Some studies share anecdotal evidence from selected types of professionals involved in financing long term care that increasing numbers of individual are practicing Medicaid estate planning (Burwell, 1991, 1993; Moses, 1990, 1993).

Methods

This study was designed to gather in-depth insight into family decision making about allocating private and public resources when elders face long term care needs. Qualitative methods were considered the most appropriate for beginning to understand the dynamics of decision making given the multi-faceted and complex nature of financing long term care and the current lack of research. The methods chosen enable an in-depth understanding of the issue from purposefully selected samples.

Sample

Families involved in long term care decisions were recruited to participate during 1994. Two types of families were recruited, those with an elder already in a nursing home (n = 33) and those with an elder diagnosed with a chronic illness but still living in the community (n = 12). Compared to the majority of the elderly population, these families were more likely to be dealing with decisions about paying for long term care. Families were recruited through the assistance of family councils in nursing homes and support groups in churches, hospitals, and agencies serving caregivers and individuals with Alzheimer's and Parkinson's disease. Of the 45 total families recruited, roughly half were located in a metropolitan setting and half in a rural, agriculturally based setting.

Family members volunteered to participate in the study. They included a broad socioeconomic spectrum, from elders who lived on Social Security as their only source of income to those with a net worth of millions. A majority were middle class with accumulated assets up to $100,000, not including the value of their home. Adult children also ranged across the entire spectrum of economic well-being. About three-fourths of the interviews were with the one family member most involved in financial and care decisions--typically a spouse if married, or an adult child (daughter or son). The remaining interviews were completed with two family members who were both involved in financial decisions. The elder in need of long term care and still living in the community typically participated in the interview, while those in nursing homes were unable to do so.

Data Collection and Analysis

Personal interviews were conducted by trained interviews using a semi-structured interview format. Questions focused on understanding the elder's health history, diagnosis and prognosis, and caregiving (including who was involved in providing care and assistance to the elder). Additional questions focused on decision making regarding care, paying for care, financial options considered and being used, amount and type of planning ahead, and perceptions about the current as well as future long term care system.

Interviews were transcribed and then coded to identify goals, decision making processes, resource allocation decisions, as well as roles and rules regarding private and public resources spent on long term care. Emerging patterns were examined for differences and similarities based on geographical location (rural/urban) and whether families were using community or nursing home based care.

Findings

Are Elders Planning Ahead?

The vast majority of elders had done some type of planning ahead for retirement--but the retirement prepared for was both a shorter and healthier one than being experienced. Few elders planned to live so long or were prepared for the potential costs of long term care. Denial of potential long term care risks and costs and a great deal of hope that they would escape such costs seemed commonplace. Elders talked about the unpredictability of health care needs and costs as well as the inability to save enough anyway to meet possible care needs. Even elders who have been diagnosed with a long term chronic illness talk about "hoping" that a limited amount of care is needed beyond what family caregivers and their own resources could get them through. Fear and worry about outliving one's income and assets were very real for some, especially individuals 85 years and over. Fear about what the future might bring financially had some elders not refilling medications and doing without needed home care help.

"You saved and were careful and thought you were going to travel and do things and all of a sudden it all goes for nursing home care--you hope that it doesn't happen." (*Wife of husband with Alzheimer's in nursing home for 4 years*)

A few families who had been approached by long term care salespersons had discussed the risks and cost of nursing home care. For many of the elders over 85, long term care insurance policies were barely on the market at the point when they would have qualified or been able to afford the premiums. It simply was not a feasible planning option. Younger spouses talked about not being able to qualify due to health problems, the high cost relative to their income, not being a "sure" thing, and different opinions among spouses as to the need for such insurance.

How Are Care Needs Being Met?

Family caregivers. Every family story included the key role family members' skills and resources played in keeping the elder in their own home or apartment and independent for as long as possible. As other research has suggested and the families in this study reinforced, it is the private informal resources of family members which provide most of the long term care for elders. The number of years in which family members assisted in keeping an elder independent ranged form 1-15 years. Without the intensive family caregiving years, paid help would have been required, needs would have gone unmet, or different care settings explored. Families with an elder in the nursing home had provided a mean of 5.85 years of caregiving per family while families currently in the process of providing informal care had provided a mean of 2.45 years of care. The "costs" for family caregivers--both direct and indirect--are numerous and typically go unmeasured as well as unnoticed. The total expenditures that result from the 205 total years these 45 family members contributed are invisible and frequently unrecognized.

Community support. Community-based services played a key role in being able to make caregiving manageable and in meeting the care needs of the elder. In almost all families with an elder currently in the nursing home, some type of community support prevented earlier placement in a nursing home.

Family members talked about the importance of having a range of options to choose from in community services which were both affordable and provided quality care. For some, the availability of quality assisted living provides needed support between one's own home and the nursing home. For others, formal home care, adult day care, respite care, meals on wheels, and caregiver support helps meet either the elder or the family caregivers' needs. Family members also talked about doing without needed services because they were unavailable, not affordable, or because the elder refused to accept help from outsiders.

Many families experienced a spending down of their private resources while the elder was in the community. Income as well as selected assets were going to pay for assisted living, paid home care, and the frequent co-pays and deductibles not covered by Medicare or Medicare supplement policies. Costs such as dental and eye care, prescription drugs, or insulin were examples of costs typically being paid for out-of-pocket. It was not uncommon for assets from the sale of the home to be used for assisted living, or being able to live in an apartment or condo with some arranged services and support.

Nursing homes. A consistent and clear message from families was the desire to avoid nursing home placement. Families still in the community spoke often about avoiding nursing home placement and hoping that they would be the "exception" as the Parkinson's or Alzheimer's disease of the elder progresses. In reality, families come to the realization that nursing home placement may be the best way to meet the care needs of the elder. Feelings of guilt and failure for not having tried hard enough or doing enough are commonly expressed by the caregivers, regardless of how overburdened or overloaded their role may have been.

Of the families with an elder in the nursing home, elders were typically in the oldest-old age group, female, and widowed. Nursing home stays ranged from 1 month to 13 years with a median stay of 24 months.

Who is Paying for Nursing Home Care?

Of the 33 families in our sample with an elder in a nursing home, all but one had used family or private resources to pay for care during part of all the stay. Of the 32 who had entered private pay, a majority (25) remained private pay while seven had spent down and had qualified for Medical Assistance. Private pay stays ranged from 1 month to 13 years, with a mean of just over two years. In our sample the average family, then, had spent $75,000 on nursing home care with future needs and costs being unpredictable (2.15 years of care times an average nursing home cost of $36,000). These expenditures followed the mean 5.85 years of informal caregiving, and out-of-pocket payments for community support.

What about Medicaid estate planning?

Medicaid estate planning involves intentionally transferring assets owned by the elder to other family members to become eligible for Medicaid as the payment source for one's care. Awareness of Medical Assistance and the financial protection it provides for nursing home care varies. Most families hope nursing home care will not be needed, and therefore perceive no need to consider such planning. Even when an elder is diagnosed with an incurable, debilitating disease and there are expectations of increasing care, a majority of families do not appear to be consciously planning how they will meet such needs beyond their own caregiving resources. Some have listened and learned about financing options, but have not made specific plans. Some know there are government options, but are not sure about any of the details. Other have heard about Medicaid and consider it a safety net, should their own resources be depleted. Some know some details about transferring assets to become eligible, believe many other families are taking such action, but consider it dishonest, a loss of dignity, and a process that goes against their values and goals.

Most families learn about Medical Assistance upon admission to the nursing home and it is at that time that they begin to explore burial trusts and to specifically consider gifting allowed under the guidelines. Many families with an elder in the nursing home have established a burial trust so that money would be available for a funeral; but do not consider this to be Medicaid estate planning or a transfer to exempt assets under Medicaid. Gifting of $500 or $1000 to adult children/year might also be occurring but not considered intentional transfers to become eligible for Medicaid. Families in the community often learn about Medical Assistance through support groups or through friends and may follow up with visits to a professional to learn about specific options.

Some families learned about Medicaid estate planning and made a variety of decisions. One of the 33 families with an elder currently in the nursing home had "programmed mom for Medicaid" by establishing a trust in which mom's assets will be inherited by an adult child. In this family, informal care and assisted living had been provided and paid for with family resources for 8+ years prior to needing nursing home care. The inheriting adult child is paying the extra amount for a private room. Another of the 33 families who had an elder in the nursing home had planned to apply for Medicaid after reserving $60,000 for nursing home care. Assets had been rearranged to provide financial security for the remaining spouse and assets transferred to adult children with the expectation that the assets would be used for the frail spouse should the healthy spouse precede her in death. In this case, the Medicaid application was never filed as the spouse died after two months of private pay and seven years of intensive home care by the spouse.

"I could have taken it all and disposed of it, but I didn't. I just felt that we could pay this for some time, the state don't have to pay it as long as I can. I planned to pay about $70,000 or so." (*Husband of wife with dementia*)

For some families who had already spent down or were in the process, knowing Medicaid was available as a safety net and that care would not differ depending upon whether they were private or public pay was a great relief.

"You see, we didn't think it would turn out this way. I feel really bad...I don't want my mother on the dole, I think that's terrible, but what else are we going to do? We sold her home and she had very little in savings. I'll pay for her private room." (*Daughter of mom in nursing home who spent down private resources*)

Public Policy and Education Implications

The delivery and financing of long term care is a complex policy issue which continues to be addressed through legislation, regulation, enforcement, and private sector initiatives. Medicaid eligibility requirements are being revisited, especially types and timing of asset transfers. The role of private sector funding mechanisms such as long term care insurance, and the availability of community-based services are some examples receiving consideration at the federal and state levels of government. Such policy discussions involve assumptions regarding the role of the private and public sectors in long term care, the emotional and financial obligation of family members to provide care for elders, and inheritance rights. The voices and experiences of family members as the ultimate consumers of long term care offer important insight for policymakers as debates on long term care continue. Consumer and family advocates can play a key role in helping ensure policymakers hear and consider consumer perspectives.

First, it is important to recognize that both public and private resources are needed to help finance long term care. Families as well as various public programs are already spending significant amounts of their own resources. Resources being used by families include caregiving skills as well as income and assets to meet the needs of frail elders. Policymakers should question how far family resources can be stretched before needs go unmet and elders as well as family caregivers are at risk.

Claims that a majority of families are divesting and voluntarily becoming poor to qualify for Medicaid did not hold true for these 45 families. A few families were transferring assets in anticipation of becoming eligible for Medicaid. Gifts to family members were common and typically $1000-$2000/person, smaller amounts than allowed under current gifting laws. Gifts were often given and/or received with the expectation that they would be used to cover the costs of a private room or other expenditures not covered by Medicaid. It is also important to remember that not everyone who divests will eventually apply for or use Medicaid.

Future attempts to understand the prevalence of Medicaid estate planning should not simply focus on tracking dollar amounts of assets transferred among family members. It seems essential to understand why transfers are made, the goals families are trying to accomplish, expectations regarding use of assets, and the actual impact of the assets transfer. Getting answers on prevalence may not depend as much on willingness of family members to talk as much as how the questions are asked. The meaning of divestment and transferring assets varies among family members. Certain actions taken within legal guidelines may not be perceived as divestment or intentionally transferring assets to becoming eligible for Medicaid (e.g., burial trusts, gifting within allowed limits).

Improving Long Term Care for Families?

Family members involved in long term care decision making provide insight into what improving the current long term care "system" for family members would mean. Four key criteria are recommended as measuring sticks for policymakers and consumers to use as hard decisions about limited resources continue to be

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made. Decision makers should be challenged to answer how specific policies and programs will accomplish each of the criteria.

Simplify and Integrate. The current delivery and financing "system" is too complex in terms of access, eligibility, paperwork, and being able to understand who will pay for what. Family members and professionals are spending limited resources on just trying to understand options and consequences to attempt informed decisions. The lack of integration in the delivery and financing of nursing homes, health and social community-based services, and acute care settings such as hospitals and care providers is a major source of frustration for family members trying to provide quality care for an elder. The complexity means that some families "decide not to decide" because the decision making is too overwhelming, and a majority of families must rely on a variety of professionals for information to understand potential options. Professionals struggle to keep up with changing policies and rules, and sometimes offer different interpretations of what options are legal or what the potential consequences of decisions might be for family members.

Build Supportive Systems for Families. Family members are trying to meet the needs of elderly family members by providing quality care and keeping then as independent as possible. To do so, they need access to a continuum of long term care services in a variety of settings. Elders and family members clearly prefer community-based care, but equal access, affordability, and quality issues must be addressed if such services are truly useable." Services which assist and support informal caregivers as well as the elder can play a critical role in extending family and therefore public resources. Subsidized adult day care, for example, allows an informal caregiver to provide unpaid care, keep an elder at home, and prevent potentially costlier institutionalized care.

Provide a Safety Net. There are limits to the availability and ability of family resources—both informal caregiver skills and accumulated assets to pay for unpredictable long term care expenses. A continuum of quality community-based and nursing home care is essential to meet the needs of elders without social support and who have limited personal assets. The safety net needs to take into account the impact of eligibility criteria on both the elders' care choices as well as on financial protection for a remaining spouse. Policymakers should learn firsthand what it's like to complete a Medical Assistance application, the process of application, and the impact on family members. The lack of an adequate safety net will mean unmet needs, overburdened caregivers, and spouses at risk of financial insecurity. As Medicaid is revisited and states struggle with fiscal responsibility, the risks to elders, their family members, and society as a whole must recognize that for some elders, Medicaid is their only option.

Provide Clear and Consistent Messages Regarding Financial Responsibility. Family members and professionals consistently emphasize the need for policies which provide more "givens" so that individuals can make informed decisions about how to best protect against the risks of long term care. As one adults child in his 40's said: "If they keep shifting the target around, what most people find is that you never put an arrow into your bow. In other words, don't plan, don't set anything aside, because they are going to shift it on you and there is no point of doing it. You get a lot of gambling because it doesn't matter anymore." State legislatures continue to consider and make changes to make it more difficult to dispose of assets and become dependent on Medicaid. The discrepancy between what is considered legal and what is considered proper confuses both families and professionals. Consistent messages would help reduce the fear and worry about the use of private and public funds.

Prevention education is one tool to help provide clear and consistent messages regarding financial responsibility for long term care. Education is needed to help current and future generations understand the risks of long term care, the potential financial implications, and the range of family, private sector, and public resources available for protection. Myths about "who pays" continue and need to be replaced with a realistic understanding of financing options and potential consequences. Family members might be more willing to plan ahead for long term care and pay "my fair share" if they knew what their fair share would mean financially.

There is a critical need for educators who can provide a holistic view of long term care financing options and potential consequences. Consumer and family economists are ideal candidates. Too often consumers are faced with having to seek out information on various types of financing options from different sources of information (Medicaid, long term care insurance companies, financial planners). As a result, consumers may understand selected financing options, but not understand how the pieces fit together to provide adequate protection or the consequences of selecting certain options. To make informed decisions, consumers need a minimum of both credible and "plain language" information. Consumer educators can play a key role by filling these educational gaps.

Many decisions about delivering and financing long term care are facing policymakers. These decisions will have both direct and indirect implications for heard as decisions are made regarding the allocation of scarce public and private resources. As solutions are examined, the consequences—including the true costs for elders and their families—should be thoroughly understood.

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Endnote

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Elderly Volunteers: Analysis of Participation and Time Commitment

Using the 1989 Current Population Survey, this study examines participation and time commitment of the elderly volunteers. The results of sample selection model show that being a female, being married, living in the Midwest, having a higher income and education, home ownership and seeking employment are positively related to participation in volunteer work whereas living in a large city and having more household members are negatively related. Those with a college education and young children under 18 spend more hours, and home owners spend fewer hours in volunteer work than non home owners.

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Introduction

Volunteering has played an important role in shaping American society throughout its history (Sundeen, 1990). The history of the elderly volunteering goes back to the Great Depression in the 1930s, World War II, and continues to the present. The range of services offered by volunteers is broad and they perform many socially important functions (Caro & Bass, 1995). Their volunteer services are provided on an organized or an informal basis. Organized volunteer work by the elderly ranges from small local programs (i.e., churches, museums, libraries, schools and nursing homes) to large national programs (i.e., Retired Senior Volunteer Corps (RSVP), Foster Grandparents Program (FGP), American Association of Retired Persons (AARP) and Independent Sector). On an informal basis, a continuous spectrum of helping and assisting others such as providing transportation, serving foods, tutoring, baby-sitting, homemaking, and caregiving are regarded as volunteer activities.

As the proportion of the aged population increases, more educated and productive elderly people participate in volunteer work. The 1993 national statistics presents that 47% of the elderly 55 to 64 participated in volunteer work, followed by 43% of people aged 65 to 74 and 36.4% of the aged 75 and over (U.S. Bureau of the Census, 1995). As baby boomers are aging, it is projected that more elderly will participate in volunteer work since they are expected to have a higher income and education, and better health than current older Americans.

Despite the importance of the elderly, volunteering, research on elderly volunteering is limited: existing research only focused on either descriptive information or theoretical explanation. Therefore, this study will establish a profile of the current elderly volunteers aged 55 and over, and identify volunteer organizations served by the elderly. It will further examine and contrast the factors associated with the likelihood of participating in volunteer work and the time commitment in volunteer work for both the retired and non-retired households.

Conceptual Approach

Much of the literature with regard to volunteer work has been developed from queries about the underlying motivations. Largely, altruism, utility interdependence, time-use, human capital, and the activity theories have provided theoretical bases. Altruism, in particular, is widely recognized as the underlying motivation associated with philanthropic behavior such as volunteering (Becker, 1976; Unger, 1991), although some studies contended that altruism is just one of the complicated motivations that influence volunteer participation (Andreoni, 1989; Cnaan & Goldberg-Glen, 1991).

The utility interdependence theory developed by economists illustrates that the utility of a volunteer is influenced by others' utility levels as well as his or her own utility level (Unger, 1991). Becker (1974) focused on the interaction between the income and consumption of individuals, and those of the other persons, and he incorporated the standard of living of poorer persons into the utility functions of richer ones. That is, the consideration of income and consumption of the individual is not limited to his or hers alone, but involves the needs of the community and society as a whole. Therefore, a family and a society are interdependent organizations.

Another economic view on volunteer work is derived from a labor-leisure analysis. A traditional labor-leisure analysis has been applied to examine the time use and the opportunity cost of volunteering (Bryant, 1992). The time-use study may be linked to human capital investment, in that the time used in volunteering results in increased productivity in the future (Bryant, 1992). Bryant related volunteer work to human capital investment by categorizing the activities performed by households into four categories: market work, household work, leisure, and voluntary activities. Bryant's contention was that volunteering can promote market productivity through a higher labor force participation and wage rate. Thus, it may be that the current time spent on human capital investment is likely to affect future time use.

On the other hand, there are several studies on elderly volunteers focusing on psychological or attitudinal aspects in the gerontological literature. The activity theory, in particular, has been utilized to elucidate the effect of volunteer participation on the behavioral or attitudinal aspects of the elderly. This theory suggests that life-satisfaction and the well-being of the elderly are improved by maintaining social interactions after middle age (Havighurst et al., 1968; Herzog et al., 1989).

This study assumes that the elderly volunteers are motivated by altruism, and that their volunteer activities can be illustrated by the utility interdependence, where one's own utility level is interrelated with the level of other persons' utility. It also conceptually relies on the activity theory that elderly people could enhance their life satisfaction and well-being through participation in volunteer work. Lastly, the traditional economic theory is applied to volunteer work since rational human behavior can be determined by a person's own utility function subject to time and budget constraints.

Methods

Data and Sample

The data are taken from the 1989 Current Population Survey (CPS) conducted by the Bureau of the Census for the Bureau of Labor Statistics. The CPS contains a representative sample of the non-institutional population of the United States. The 1989 CPS includes supplemental data which contain detailed information on organized volunteer work. This survey is a unique data source that supplies information on volunteer participation, the amount of time volunteered, and the type of volunteer organization served by volunteers. The sample used in this study consists of 11,040 older persons aged 55 and over. The sample is stratified by the current retirement status to compare the retired elderly (N=7,544) with the non-retired elderly (N=3,496).

Variables and Hypotheses

The dependent variable used in the volunteer participation model is dichotomous, coded 1 if the respondent participated in volunteer work over the past 12 months, 0 otherwise. The dependent variable in the time volunteered model is continuous. It is measured by the number of hours spent in volunteering over the past 12 months. Based on the theory and previous research, five groups of independent variables are identified. Demographic factors include age, age squared, gender, race, household size, and region. Age is expected to have a curvilinear relationship with volunteering since health deteriorates as an individual ages (Herzog et al., 1989).

Socio-economic factors are household income, education, and home ownership. Household income and education had a positive relationship with volunteering (Perry, 1983). Time constraints are reflected by the presence of children under 18 and the flexibility of work schedule (for non-retired sample). Having young children and a tight work schedule are expected to have a negative influence on volunteering since the presence of young children increases the demand for parental time and flexibility at work may also affect the volunteering decision, having a flexible employment may increase volunteering opportunities (Bryant, 1992).

The utility-interdependence are presented by the percentage of persons in a state below the poverty line in 1989 and the population size. Population size is a proxy for the free-rider tendency. Those who live in large cities tend to have a higher expectation of having a free-rider tendency than those residing in small cities (Unger, 1991). The percentage of persons below the poverty line reflects community needs for volunteering support. Thus, the elderly residing in small communities and states with fewer people in poverty are more likely to participate in volunteer work.

Analysis

For the sample used in this study, approximately 10% of the elderly aged 55 and over participated in volunteer work. For the limited dependent variable with a censored problem, tobit analysis has been the preferred technique (Kennedy, 1994). Tobit analysis, however, is not appropriate for this study because it may ignore the two-step nature of the decision process, assuming that the relationship between the independent variables and the likelihood of volunteer participation is identical to the relationship between the independent variables and the number of hours volunteered. Therefore, as an alternative approach to the tobit model, a sample selection model is used (Blundell & Meghir, 1987).

The sample selection model consists of the first-hurdle probit model and the second-hurdle selection tobit model.[2] In the probit analysis, the probability of volunteer participation by the elderly age 55 and over is estimated, and the factors affecting volunteer participation are identified. Based on the first model, the sample selection tobit model is estimated by the maximum likelihood procedure (Greene, 1995). The tobit model with selectivity assumes that the values of time volunteered and the parameters are only observed when the respondent participated in volunteer work, given that time volunteered is censored at zero.

Results and Discussion

Less than 10% of elderly people aged 55 and over participated in volunteer work and the non-retired elderly had a higher participation rate and degree of involvement. About 8% of the retired elderly participated in volunteer work, while 12.2% of the non-retired in this study were volunteers. The average number of hours volunteered for the total sample over the past 12 months was 13.42 hours. For the retired, the annual time spent on volunteering was 11.70 hours and the non-retired elderly spent 17.12 hours in volunteering.

Results of the Probit Analysis of Volunteer Participation

The results of probit analysis for participation model is presented in Table 1. As expected, age and age squared were found to be significant with different signs for the total and retired groups. These findings suggest that there is a curvilinear relationship between age and the likelihood of volunteer participation by the elderly. That is, the elderly were more likely to participate up to their late sixties. But, participation was likely to decline after that age.

For both the total and retired samples, Midwesterners were more likely to volunteer than those who resided in other regions. Gender was a significant factor for the total and retired group, which was consistent with previous studies (Hayghe, 1991; Herzog et al., 1989). As expected, women were more likely to participate in volunteer work than men.

Regardless of retirement status, socio-economic factors including household income, education, and home ownership affected the likelihood of volunteer participation significantly. Consistent with previous studies (Mueller, 1975; Perry, 1983), elderly people with a higher income were more likely to participate in volunteer work than those who had a lower income. As reported in the existing literature (Hayghe, 1991; Perry, 1983), it was confirmed that education is an important factor influencing elderly volunteering. As compared to the high school graduates, those who did not finish high school were less likely to participate in volunteer work. The elderly with a college or post-college education tended to participate more in volunteer work than the high school graduates. The homeowners were more likely to participate in volunteer work than the non-homeowners.

For both the total and retired samples, married elderly were more likely to participate in volunteer work than unmarried elderly. The job-seeking elderly, for the retired sample, were more likely to volunteer than those who had no intention to work.

The time-related factors including time flexibility and the presence of young children were significant only for the non-retired group. Flexibility of the work schedule was positively related to volunteer participation. Although the presence of young children under 18 was hypothesized to be a time constraint for volunteering, it was found to be positively related to volunteer participation. Consistent with previous studies (Mueller, 1975; Unger, 1991), those from less populated areas tended to participate more in volunteer work, as compared to those residing in a heavily populated area.

Results of the Sample Selection Tobit Analysis of Time Volunteered

As shown in Table 2, the findings differ from the results of the probit models indicating that the decision-making of volunteer participation and the time volunteered by the elderly were influenced by different factors. That is, the relationship between explanatory factors and the likelihood of volunteering was not identical to the relationship between the factors and the amount of time volunteered.

The effect of education associated with the time commitment for volunteer work was found to be significant only for the retired group. As expected,the college graduates among the retired were likely to spend more time for volunteer work than the high school graduates. Home ownership was negatively associated with the time devoted to volunteer work for the total and retired groups. Homeowners were likely to spend fewer hours in volunteer work than non-homeowners, although they tended to participate more in volunteer work as found in the probit analysis. The presence of children under 18 had a positive effect on the time volunteered for the retired group. More hours were spent on volunteer work by the retired elderly with children under 18 than the non-retired.

Table 1
Factors Associated with Volunteer Participation: Results of Probit Analysis

Variables	**Coefficients**		
	Retired(n=7,544)	**Non-retired(n=3,496)**	**Total(n=11,040)**
Intercept	-6.86 (1.649)***	-5.084 (2.911)	-6.591(1.29)***
Demographic factors:			
Age	0.147 (0.047)**	0.1 (0.0902)	0.141 (0.037)***
Age squared	-0.001 (0.0003)***	-0.0007(0.0006)	-0.001 (0.0003)***
Region			
Midwest	0.216 (0.065)***	0.135 (0.085)	0.187 (0.051)**
Northeast	-0.047 (0.08)	-0.122 (0.104)	-0.772 (0.063)
West	0.107 (0.07)	0.011 (0.093)	0.071 (0.056)
(South)			
Household Size	-0.064 (0.031)*	-0.087 (0.035)*	-0.076 (0.022)***
White	0.076 (0.087)	0.167 (0.113)	0.125 (0.068)
Male	-0.188 (0.047)***	0.0176 (0.065)	-0.121 (0.037)**
Socio-economic factors:			
Household income	0.000 (0.000)***	0.000 (0.000)**	0.000(0.000)***
Education			
less than high school	-0.345 (0.073)***	-0.386 (0.14)***	-0.346 (0.064)***
college	0.162 (0.056)**	0.403 (0.068)**	0.266 (0.043)***
more than college	0.523 (0.092)***	0.635 (0.091)**	0.563 (0.063)***
(high school)			
Home ownership	0.198 (0.0775)*	0.326 (0.112)**	0.234 (0.063)***
Activity factors:			
Married	0.221 (0.073)**	0.108 (0.106)	0.183 (0.059)**
Employed			0.058 (0.044)
Full-time employed		-0.109 (0.075)	
Looking for work	0.717 (0.224)**		
Time-related factors:			
Time flexibility		0.223 (0.068)*	
Presence of children under 18	-0.034 (0.147)	0.297 (0.128)*	0.162 (0.095)
Utility Interdependence factors:			
Percent of persons below poverty line	0.003 (0.009)	-0.006 (0.012)	0.0003 (0.007)
Population size			
100,000-499,999	0.197 (0.074)**	0.322 (0.093)***	0.247 (0.058)***
500,000-999,999	0.278 (0.078)***	0.32 (0.099)**	0.295 (0.062)***
one million-4,999,999	0.145 (0.068)*	0.223 (0.084)**	0.183 (0.053)***
(5 million or more)			
Log likelihood	-1891.98	-1184.48	-3101.22
Chi-squared	355.74	230.17	589.84

Note: Standard errors are in the parentheses
*p < .05. **p < .01. ***p < .001.

Table 2

Factors Associated with Time Volunteered: Results of Sample Selection Tobit Analysis

Variables	Coefficients		
	Retired	**Non-retired**	**Total sample**
Intercept	-1507.2(1740.9)	81.37(3278.1)	-888.53(1382.5)
Demographic factors:			
Age	47.408(48.885)	-5.57(103.09)	29.81(39.35)
Age squared	-0.36(0.368)	0.055(0.82)	-0.229(0.31)
White	72.45(150.26)	64.85(174.66)	69.78(109.2)
Socio-economic factors:			
Household income	0.0001(0.0007)	0.0002(0.0012)	0.00007(0.0005)
Education			
less than high school	15.98(68.59)	-83.97(315.93)	-3.17(65.09)
college	84.31(37.08)*	-20.84(87.89)	47.20(32.61)
more than college (high school)	3.38(95.41)	-40.46(144.84)	-10.09(65.38)
Home ownership	-89.87(43.74)*	-6.211(114.94)	-77.12(39.28)*
Activity factors:			
Married	70.4(76.84)	6.212(118.48)	35.65(61.75)
Employed			-11.27(29.65)
Full-time employed		41.47(67.38)	
Looking for work	-26.52(180.84)		
Time-related factors:			
Time flexibility		10.91(79.75)	
Presence of children under 18	138.6(64.55)*	-78.58(229.17)	1.894(58.46)
Utility Interdependence factors:			
Percent of persons below poverty line	-8.029(5.75)	6.586(7.60)	-1.445(3.98)
Sigma(1)	312.8(17.38)***	326.36(14.36)***	318.2(8.43)***
Rho(1,2)	0.248(0.32)	0.057(0.645)	0.106(0.317)

Note: Standard errors are in parentheses.
*p < .05. **p < .01. ***p < .001.

Summary and Conclusion

This study examined the factors affecting volunteer participation and the time volunteered by the elderly using the 1989 Current Population Survey, based on demographic, socio-economic, activity, time-related and the utility interdependence factors. A sample selection model, one of the so-called double hurdle methods, was employed for model estimation.

The results of the probit analysis suggest that elderly volunteers have different characteristics depending on their retirement status. The significant variables for the retired sample were the same for the total group, while fewer and different variables influenced the volunteer participation of the non-retired sample. For the retired and total group, the likelihood of volunteering is positively associated with being female, residing in the Midwest, having a college or post-college education, having a higher income, being married, home ownership, and looking for work. Larger household size and living in heavily populated areas are inversely related to the likelihood of volunteering. The elderly are more likely to volunteer up to their late sixties, but are likely to decrease their participation at a later stage of aging. Among the non-retired, those who have a higher income, a college or post-college education, a house, a flexible work schedule, and young children under 18 are more likely to volunteer than their counterparts.

The findings of sample selection tobit analysis show that, for the retired elderly, those who have a college education and children under 18 tend to spend more hours in volunteering than those with a high school education and those without young children under 18. For the total and retired samples, home ownership is negatively related to the time devoted to volunteer work. No significant factors are found for the non-retired.

This study did not examine some important factors such as health status, religion and the poverty level at a community level due to the lack of information in the 1989 CPS data. The cost of time is also needed in a discussion of volunteer work. If the dollar value of various forms of volunteer work could be accurately measured, their economic contributions would be confirmed in an aging society. Hence, future research is recommended to explore the effect of these variables on volunteering. If varied forms of informal services performed in their neighborhoods and towns by the elderly are examined as well as organized volunteerism, future study will provide a better understanding of the elderly volunteering and a more accurate assessment of the productivity of the elderly in the United States.

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Complaint Behavior of Taiwanese Consumers: An Empirical Study

This paper relies upon in-depth interviews to explore complaint behavior of Taiwanese consumers. The results indicate that complainers usually started with negative word-of-mouth communications. Some of them may take a further step to make complaints to companies. Dissatisfied consumers may simultaneously adopt several responses to make complaints.

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Consumers' Complaint Models

After testing several models concerning consumer complaint behavior, Singh (1988) concludes that these taxonomies and operational definitions are not acceptable illustrations of observed responses of consumer complaint behavior. Consequently, a new taxonomy of consumer complaint behavior is proposed by Singh (1988). This taxonomy classifies consumer complaint behavior into three categories: 1. voice responses ; 2. private responses; 3. third party responses. Singh (1988) further indicates that provided evidence seems sufficient to prove that these three dimensions of consumer complaint behavior are distinctive and have discriminant validity. Research treating consumer complaint behavior as a heterogeneous and multi-dimensional phenomenon seems better in explaining consumer complaint behavior.

Although previous classification of consumer complaints seems inclusive, few attempts have been made to discover the relationships between these dimensions. Because understanding of possible responses dissatisfied consumers may have is critical in designing compensation skills, and these consumers may adopt several responses jointly (instead of just one), an examination of the sequence of likely responses cannot be ignored and deserves further study.

Sequences of Consumers' Complaints

The data indicate that, for those who take voice actions, complaints usually start with negative word-of-mouth communications. Some of them may take a further step to make complaints to companies. They may stop negative word-of-mouth communications if the firm provided satisfactory compensations. However, poor attitudes of firms' complaint handling agents usually sent these consumers to the Consumer Foundation of Taiwan (CFT), a private third party which advocates consumer protection in Taiwan. Consumers' complaints usually stopped here in the CFT, unless acceptable results cannot be derived. Under this condition, although it did not happen very often, complaints were brought to the court and consumers may form a consumer group with other victims to fight for their own rights. Although causes of consumer complaints varied, those due to misleading advertising contributed primarily to consumer complaints.

To reduce consumers' complaints or turn complaints into constructive suggestions, firms have to provide quality products/services, improve their relationships with customers and earn trust from customers. Furthermore, firms making complaint channels open and demonstrating sincerity of providing remedy can usually regain trust from customers.

Endnotes

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Consumer Issues and Policies: State Lotteries

Content analysis of 37 state lottery reports shows a wide range of formats and themes. The analysis provided consumer questions relevant to an examination of policies directing lotteries.

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Suzanne M. Tucker, Center for Enriched Communication[2]

Since 1963 37 states and the District of Columbia have enacted lotteries.[3] In addition, multi-state lotteries involve from three to 22 states.[4] U.S. ticket sales exceeded $28.5 billion in 1994 (U.S. Bureau of the Census, 1995, p. 314). States realized ten billion dollars after prizes and operating expenditures. With state's efforts to enhance revenues and provide players "instant fun" and "more instant fun" (Michigan ..., 1996), consumers must understand issues including costs and benefits—to themselves, their families, communities, and states.

From content analysis of 37 annual reports, state policies show differing efficiencies and priorities. State lottery revenues (1995) were 53% for prizes (range 47-69%), 32% for state (range 19-41%), and 14% for administration (range 6-29%). The state where consumer's lottery dollars result in the most prize money is not the state where the consumer/taxpayer sees the greatest benefit. Makela posed questions related to the consumer interest in "The State Lottery: ..." (1995). Self-interest by the education establishment was presented as a likely explanation for its lack of questioning of gambling (Schmidt, 1996). Questions involving consumers' right to information must be explored. Our research suggests these questions for examining states' lottery policies and actions.

1. **What portion of state revenue is from the lottery?** Is it a large enough portion to signal that the state is dependent on these funds? What funding alternatives exist?

2. **What do lottery proceeds fund? education? general fund?** In the last 15 years, states' lottery proceeds have been distributed—56% to education, 23% to general funds, 10% to cities, 9% to senior citizen programs, and the rest to other programs. Do beneficiaries have and show a vested interest in lottery growth? On what bases do programs receive funding—competitive grants? need based? per capita? legislative action? governor's discretion? Do lottery proceeds warrant the lottery infrastructure?

3. **How is the lottery administered?** Is it a state agency? A quasi-independent unit? Who serves on its board? To whom does it report? What are implications for oversight? responsibility to citizenry? contractual solicitation and acceptance?

4. **Is the lottery unit financially independent?** Does its financial report adequately account for income and expenses? Are expenses "low" due to access to resources for which the lottery is not responsible—buildings, communications, printing? What incentives are there to keep costs low?

5. **How/to what extent is the lottery promoted?** (1) to consumers? (2) to retailers? (3) to beneficiaries? and (4) to counter competition for consumers' dollars? Is advertising fair, free from deception?

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Endnotes

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[3] States without lotteries—AL, AK, AR, HI, MS, OK, NV, NC, ND, SC, TN, UT, WY.

[4] They are administered and reported within individual state's lottery.

Virtual Economics

"Virtual Economics" is a resource for use in teaching and/or learning consumer and economic education. The program has multiple uses and applications limited primarily by the creativity of the user. Components of the program are outlined and reviewed. Hardware requirements are listed.

Susan J. Jenkins, Idaho State University[1]

Purpose

There has never been a resource for teachers committed to economic education like *"Virtual Economics: An Interactive Center for Economic Education."* The purpose of this curriculum showcase was to introduce "Virtual Economics," an interactive CD-ROM which functions like a knowledgeable librarian. It provides teaching strategies, contents, definitions.....everything needed to teach economics (also consumer economics, personal finance, and related issues/courses) or incorporate economic units into lesson plans. Applications are possible from grade K through 12, Advanced Placement, adult/community education programs, and even in university undergraduate coursework.

Overview

The "Virtual Economics" CD-ROM opens with a self-guided tour of the 3-D "Interactive Center for Economics." This includes a "gallery" of exhibition rooms featuring fundamental economic concepts, as well as macro, micro, and international economic issues. Users can take as much or as little time as necessary to explore and learn at exactly the depth desired.

Users of "Virtual Economics" will travel through a range of economic information appropriate for many uses and educational settings. The user determines what they need and in how much detail. The program allows "mix and match" to create individualized lessons or to choose from thousands of the best classroom-tested lessons available. A majority of these (lesson plans, curriculum materials, reference books, economic data, student handouts, tests and more) may then be printed for educational purposes.

Click into the "Resource Library" and there are over 150 documents (30,000 pages) of the newest and best instructional materials. All materials are coded and cross-referenced for easy access to any topic, AND categorized for grades K-4, 5-8, and 9-12.

"Virtual Economics" will run on any computer with at least a double-speed CD-ROM drive, Windows 3.1 or Macintosh II (System 7.0 or later), a 13" color monitor, a sound card and speakers, and at least 8MB of memory. The CD-ROM has voice prompts, icons, and on-screen directions. It is designed with vivid full-color graphics, three dimensional settings, newsreel footage, films, and photographs. Included are actual voices of those who have made economic history, as well as those who have been affected by it!

Implications

The possibilities for utilizing this resource within and among the membership of the American Council on Consumer Interests are multiple and varied. Implications for the following broad issues should be considered: (1) classroom (undergraduate/graduate) teaching; (2) teacher education (preservice); (3) teacher training (inservice); (4) research (e.g. user acceptability of technology-based resources OR format assessment for future resource development); and (5) individualized training, tutorial, and instruction.

[NOTE: This project was developed and published by EconomicsAmerica: The National Council on Economic Education and the Nebraska Council on Economic Education with funding from the National Science Foundation. EconomicsAmerica is a national nonprofit network of over 300 affiliated State Councils and local Centers for Economic Education. Its mission is to insure that every young person in America (1) understands essential economic concepts, (2) is able to use economic ways of thinking and problem solving, and (3) has a solid grasp of the nature and structure of the national and global economy.]

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Who Gets Grandma's Yellow Pie Plate?
A Consumer Education Program Addressing the Transfer of Non-Titled Property

This session described research-based education resources developed by the Minnesota Extension Service to address the issue of transferring non-titled property. Results of a family based research study and pilot efforts were presented and provide the basis for six key factors for the successful transfer of non-titled property. Specific content and target audiences for the educational resources were presented.

Marlene S. Stum, PhD, University of Minnesota[1]

Background

Family members have been transferring property and wealth to future generations for centuries. However, very little is known about inheritance issues and the impact on families. Most of what is known about transferring titled property (proof of ownership exists such as vehicle title or bank account). While various educational resources exist to help individuals through estate planning issues, an overwhelming majority do not include tools to help elders or their family members make informed decisions about transferring non-titled property. Non-titled property refers to personal property without a legal document (such as a title) to indicate who officially owns the item.

Educational Resource Development

Given the lack of research on non-titled property transfers, a qualitative research project with 67 Minnesota adults was undertaken to help understand the dynamics of decision making. Results assist in understanding both the similarities and difference when transferring titled and non-titled property in families. Insight was gained regarding transfer goals, what "fair" means, distribution processes, sources of conflict, and what makes the issue sensitive.

This research, a review of existing literature, and a year of piloting written materials suggests that there are six key factors to consider when planning for the transfer of non-titled property. The following six key factors provide the basis for the educational resources developed: 1) understanding the sensitivity of the issue; 2) determining what you want to accomplish; 3) determining what fair means; 4) identifying the meaning of objects; 5) recognizing distribution options and consequences; and 6) agreeing to manage conflicts if they arise. This project serves as a model for linking research and educational resource development.

Educational development has resulted in three specific resources for use by professionals and consumers. An advisory committee composed of attorneys, probate and trust professionals, aging services professionals, and educators was active in shaping and reviewing both the content and format of these products. A Personal Information Collection is designed for consumers and contains nine large-print publications including worksheets and tools to help families work through the six key concepts. A 13-minute video introduces the topic and six key factors to consider in the transfer process. A 150-page educators package is designed for professionals working with families and those who want to teach the topic. It contains teaching outlines, overheads, and handouts for each of the six key concepts, the 13-minutes video, master copies of the personal information collection publication, a summary of research, tips for teaching about the issue, a glossary, and evaluation tools.

Target audiences for these educational resources include: family members and personal representatives (executors), personal property owners, and professionals such as attorneys, funeral directors, senior housing and nursing home administrators.

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Who are the Unbanked? What Will Happen When they are Required to Become Banked?

Lori Embrey, The Ohio State University[1]
Jonathan Fox, The Ohio State University[2]

Federal and state governments provide almost $500 million in benefits to 86 million recipients each year. The American Bankers Association has estimated that 10 million recipients of these benefits do not have a checking account. By January 1999, these "unbanked" recipients will be required to become banked as the Electronic Funds Transfer Act requires that all recurring government payments be made electronically.

Scott (1988) conducted a survey of 150 unbanked consumers who reported that checking accounts were too expensive and bank hours or locations were inconvenient. The lack of accessible banking institutions in low-income neighborhoods and the desire for immediate cash has forced many consumers into the alternative financial sector. Swagler, Burton and Lewis (1995a&b) and Burton, Swagler and Lewis (1996) found that low-income consumers, who typically have short time horizons, are attraced to the alternative financial sector. Burton, Swagler and Lewis (1996) also cite the absence of technology as cause for the poor to turn to the alternative financial sector. Many banks have closed neighborhood branches which may not be adequately replaced by ATMs in poorer neighborhoods due to security concerns. Shields (1996) supported the notion that rising bank fees and reduced services have helped to force low-income consumers into the alternative financial sector.

The Federal Reserve's 1992 Survey of Consumer Finances (SCF) was used to identify and characterize the "unbanked" population. The banked and the unbanked appear to be very different groups. Higher income levels and net worth appear to independently relate to an increasing likelihood of having a checking account. Those with higher levels of installment debt are also more likely to have a checking account. Older respondents were more likely to be banked while those in larger households were more likely to be unbanked. The likelihood of being unbanked also falls as levels of education rise. Married and widowed respondents were more likely to be banked than single respondents, while divorced and separated respondents were more likely not to have a checking account. Members of Hispanic households appear much less likely to have checking accounts, as do members of the Black and Asian population. Those with bad credit history also appear to have been shut out of the banking system. A full-time job appears to lead to participation in the banking system. Finally, an extreme attitude toward risk (either self-identifying as risk averse or a substantial risk taker) tends to correlate with lower participation levels in the banking system.

The implications of this characterization are most relevant to two groups working with and for the unbanked population. The first group includes the financial services professionals led by the policy initiative that requires some form of participation before 1999. The second group consists of those working in education or counseling for individuals who are not participating in the banking system.

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Financial Abuse of Mentally Incompetent Older Adults: Findings from a Cooperative Research Project

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Financial abuse of older adults is an increasingly recognized social problem, but is also one of the most under-researched areas of elder abuse. Financial exploitation appears to be the most prevalent type of reported elder abuse, affecting more than 60,000 Canadian seniors (Vezina & Ducharme, 1992). It can be defined as "the illegal or improper use of an incapacitated or elder adult's resources or property" (Blunt, 1993).

In Manitoba, the provincial government Office of the Public Trustee, a city social service agency Age & Opportunity, and the research community pooled their expertise in a cooperative research study of financial abuse among seniors who were clients of the Public Trustee. These clients were individuals who had come under an Order of Supervision -- an order granted pursuant to the provincial Mental Health Act appointing the Public Trustee as the Committee of persons judged mentally incompetent to handle their own affairs.

Data were collected from the Public Trustee's client administration files. Between April 1, 1995 and March 31, 1996, 354 files were opened on mentally incompetent adults aged 60 or older. Of these, 76 were flagged by the Public Trustee as cases of suspected abuse, an incidence of 21.5%. A comparison group of 76 cases was randomly selected from among those client administration files *not* flagged as cases of suspected abuse opened during the same period.

Seniors suspected of being financially abused were more likely to be female ($\chi_{(1,152)}=4.82$, $p=.028$), widowed ($\chi_{(4,144)}=15.09$, $p=.005$), and live in a personal care home ($\chi_{(3,115)}=14.26$, $p=.003$) than those who were not suspected of being abused. There was no difference between the two groups with respect to age, region of residence, or monthly income. The majority of seniors who shared accommodation with another person shared with the person or persons suspected of abuse. When abuse was suspected, a child of the senior was the most common suspect. When a child was suspected of financial abuse, other forms of elder abuse were also often suspected. This pilot study has provided benchmark statistics for the Public Trustee and the results are being disseminated to those working with seniors in the province.

Acknowledgements

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New Enrollees' Satisfaction with Information from Their Medicaid HMO

More than 35,000 Medicaid clients moved to HMO managed care in fiscal 1996. To assess HMO client education programs, a representative sample of new enrollees were telephone surveyed. Within an average of 2.3 weeks of enrollment, HMO representatives had contacted 81% of respondents. Satisfaction with information received was high and 7 factors explaining satisfaction were identified.

Norleen Ackerman, Utah Department of Health[1]

To expand access while controlling costs, Utah Medicaid received a waiver modification to move all clients in Utah's major urban area to HMO (health maintenance organization) managed care in FY 1996. Over 35,000 clients chose among five HMOs. Client information had an important role in the transition, both in HMO selection and in learning to use their new HMO. Letters stressed the importance of clients selecting the HMO that best met their special needs and suggested working with local Medicaid representatives. Additional information was found in a Medicaid brochure, HMO handbooks, and an HMO video tape. After clients made a selection and HMOs were notified, HMO representatives were to contact their new enrollees to provide specific instructions on use of their HMO's benefits and procedures, including the availability and accessibility of all benefits.

The purposes of the study were to determine whether new enrollees had been educated by their HMO, the timeliness and thoroughness of that education, and whether clients were satisfied with the information received from their new HMO.

Methods

The population for the survey was Medicaid clients who enrolled in an HMO during the previous 4 months, stayed enrolled more than one month, had telephones, and still lived in the 4 county urban area. Random samples were drawn by HMO, totaling 773. Medicaid staff conducted telephone interviews in spring 1996. Completed interviews totaled 579; 194 others were non-respondents. The response rate was 74.9%. Comparisons of non-respondents and respondents found no significant differences by demographics or HMO. The survey questionnaire was devel-oped by Utah Medicaid staff. On average, it took 1.8 telephone calls to reach the appropriate respondent. English interviews averaged 4.8 minutes and other languages averaged twelve minutes.

The respondent was the recipient 41% of the time, the recipient's parent/guardian, 52%, and an-other adult, 7%. Recipients were 60% children and 40% adults; they were 62% female and 38% male. Recipients were 81% white, 12% Hispanic, and 11% other; a total of 97% spoke English.

Results and Conclusions

An HMO representative had contacted 81% of the respondents, not contacted 16%, and 3% could not recall. On average, recipients received HMO information 2.3 weeks after enrollment. The HMO representative visited the respondent's home 22% of the time, phoned 49%, and used the mail 52%. Many were contacted by phone and at home or mail.

An HMO Medicaid Handbook was received by 77% of the respondents. HMO representatives gave 63% of the respondents phone numbers to call, told 60% how to get non-emergency services, 56% how to get emergency services, 46% about preventive health services, 45% how to get care away from home, asked 41% about services for specific health care needs, and told 31% how to complain or file a grievance. Satisfaction with HMO information received averaged 5.44 on a 7-point scale, midway between "very satisfied" and "somewhat satisfied." Satisfaction did not differ significantly by HMO.

A factorial analysis of variance was conducted to explain variation in respondents' satisfaction with information. The analysis had an adjusted R-square of .417 and 7 factors were significant. Significant factors and their direction were HMO Handbook received, prompter receipt of information, speaking English, and being told about four services.

Results provide a benchmark for future studies. New enrollee education needs to be promptly completed to avoid client errors in use of HMO services.

Endnote

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What We Eat in America--Does Season Make a Difference?

Availability influences consumers' selection of the foods they eat. Modern technology and agricultural research advances have made seasonal foods obtainable year round and throughout the United States. Yet, intakes of some foods do vary by season.

Mary Y. Hama, U.S. Department of Agriculture[1]

The objective of this study is to determine seasonal effects on food intakes. The information is of interest to food producers, marketing specialists, nutrition educators, and consumer economists. Seasonal fluctuation in food intakes is an important consideration in analyzing food demand and in designing food consumption surveys. Methodologists need to know whether year-round data on food consumption are required or whether shorter periods of data collection will suffice.

Methods

This study used data from the first year of the 1994-96 Continuing Survey of Food Intakes by Individuals (CSFII), commonly called the *What We Eat in America* survey. The survey was conducted in all months of the year and about 5,500 participants of all ages were surveyed across the United States. Data from 5,311 respondents who provided two nonconsecutive days (3 to 10 days apart) of intakes were used. Season was determined by the first day of intake. The seasons were defined as *winter* for January, February, or March; *spring* for April, May, or June; *summer* for July, August, or September; and *fall* for October, November, or December. Sampling weights were applied to obtain mean food intakes of the U.S. population.

Detailed food descriptions and quantities were provided by the respondents. Foods reported in the CSFII 1994 were combined into 72 food groups and subgroups. Then, mean food intakes per day were examined in two ways: (1) comparison of seasonal indexes by season, and (2) assessment of significant differences in mean intakes between the highest and lowest average intake seasons. SAS and SUDAAN were used to test for significant differences.

Results

The highlights of the seasonal analysis from the CSFII 1994 were as follows:

(1) Mean intakes of most major food groups varied little from season to season. When variability was measured in terms of an index (year average=100.0), these index values ranged as follows: grains from 96.8 in summer to 103.3 in fall; vegetables from 96.4 in winter to 103.0 in summer; fruits from 95.6 in fall to 103.2 in summer; milk and milk products from 93.5 in summer to 104.5 in fall; meat, poultry, fish from 95.3 in spring to 110.3 in fall; beverages from 94.4 in fall to 106.3 in spring.

(2) Seasonal variability was evident among fruits and vegetables. When mean intakes (grams per day) in the highest and lowest seasons were compared, significant differences (0.05 level) were found for citrus juices; melons and berries; other fruits and mixtures; fried potatoes; tomatoes; dark-green vegetables; deep-yellow vegetables; and corn, green peas, and lima beans.

(3) Intakes of other foods also varied by season. Statistically significant seasonal differences (0.05 level) were measured for cakes, cookies, pastries, pies; crackers, popcorn, and pretzels; milk desserts; cheese; pork; frankfurters and sausages; poultry; mixtures mainly meat, poultry, fish; candy; coffee; tea; fruit drinks and ades; and carbonated soft drinks.

Conclusions

The results of the study indicate that seasonal variation is an important consideration in analyzing food intake patterns of Americans and in conducting surveys used to estimate food consumption of the U.S. population. Food demand analysts need to be aware of the seasonal influence on intakes of foods. Further research using a multivariate approach to control for factors such as cultural and regional food habits and food prices is needed to explain these seasonal effects. Also, further research is needed to study the seasonal influence on nutrient intakes of consumers.

Endnote

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Credit Card Behaviors of University Students: Ethnic Differences

The purpose of the research was to survey university students to determine how credit cards are obtained, use of credit cards, and management of credit card debt. A random sample of 3000 college juniors and seniors were surveyed from three Texas university and 633 usable surveys were returned. Analysis indicated a significant difference among Hispanic, African-American, and Caucasian regarding receiving delinquency notices from credit card companies.

Judy L. Allen, Southwest Texas State University [1]
Margaret A. Jover, Texas Agricultural Extension Service [2]

As the market for credit card owners has become increasingly saturated, the university campus has become fertile ground for credit card companies. Without a job or a source of income, university students apply for and often receive credit cards (Susswein, 1995).

Credit card companies project that by providing a credit card to a university student, brand loyalty and financial responsibility will be developed (Merrick, 1994). In contrast, Consumer Credit Counseling Services report an increase in the numbers of university students seeking advice (Templeton, 1994). The purpose of this research was to survey university students to determine how credit cards are obtained, use of credit cards, and management of credit card debt.

Methodology

A random sample of 500 college juniors and 500 seniors were surveyed from each of three Texas universities, selected because of the ethnic diversity. A total of 633 usable surveys were returned (response rate of 21.3%). The data were analyzed using descriptive statistical measures and chi-square analysis.

Findings

Demographic characteristics of the sample include 71.8% under the age of 25, with ethnicity including 44% Caucasian as compared to 28.8% Hispanic and 22.3% African-American. Three-fourths of the sample was single (75%), had an income of less than $1000 per month (73.9%) which was primarily from a job (46.7%) with parents being the primary source of income in only 26.3% of the sample.

The typical university student with credit had a total debt level over $1000 and the two most frequently purchased items were clothing/personal and entertainment. Nearly 50% of the credit cards used most frequently by the students had a annual percentage rate of between 17 - 20% and only 13.5% paid the entire balance before the due date. Nearly one-third (31.7%) use the credit card for cash advances.

When ethnic characteristics were analyzed, the only significant difference was found concerning the receipt of delinquency notices. Forty-four percent of the African-Americans had received delinquency notices as compared with 35.4% of the Hispanics and 27.7% of the Caucasians (significant at the .01 level).

Conclusions and Implications

Evidence indicates that credit cards are heavily marketed on university campuses. The study confirms that university students in this study are users of consumer credit cards and have high debt levels as a result of this credit usage. Effective consumer credit education would benefit university students in numerous ways.

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Unfair Discrimination in Insurance: A Look at Three Issues

This invited paper session examined three issues related to unfair discrimination in insurance. Holly Hunts, Montana State University, presented a paper on redlining. Brenda Cude, University of Illinois, presented a paper discussing issues surrounding the use of credit history and credit scores in underwriting insurance coverage. Joan Koonce Lewis, University of Georgia, presented the third paper focusing on the home service method of marketing insurance. A summary of each presentation follows.

Brenda J. Cude, University of Illinois[1]
Holly J. Hunts, Montana State University[2]
Joan K. Lewis, University of Georgia[3]

While all insurance is based on discrimination, the insurance industry has been accused of unfairly discriminating against certain consumers. The three papers that follow present three different aspects of the debate about unfair discrimination in insurance.

Redlining in Homeowners Insurance

> "Discrimination on the basis of race or national origin in the provision of property insurance is prohibited by the Fair Housing Act of 1968" (Committee on Banking, Housing and Urban Affairs: U.S. Senate, 1994, p. 49).

Holly Hunts examined the claim of consumer advocacy groups that unfair discrimination occurs in housing insurance, the insurance industry's counterclaim that it does not, and the actions being considered to resolve the dispute. Racial discrimination is clearly and specifically outlawed in housing legislation. Yet it continues to be a hotly debated topic within the area of housing insurance because housing insurance is, by definition, based on the principles of discrimination. Recently, concerned consumer advocacy groups have charged that the insurance industry has knowingly and systematically refused to conduct business (or has conducted business in an unfair way) in minority neighborhoods. These charges have clearly caught the attention of the U.S. Senate and the U.S. Department of Housing and Urban Development and have been brought to the attention of the Justice Department.

The consumer advocacy groups note that in major cities across the United States a large number of minority and low-income homeowners live without insurance coverage, especially in comparison to their white and high-income counterparts. For example, ACORN (Association of Community Organizations for Reform Now) testified before a Senate Committee that in Chicago, only 51.1% of occupied, single-family units in low-income neighborhoods and only 57.6% of units in minority neighborhoods were covered by any type of insurance, compared to 90% coverage in high-income neighborhoods and 85.7% coverage in white areas (Committee on Banking, Housing and Urban Affairs, 1994, p. 4). The consumer advocacy groups also note that while some practices may not appear to be racially or ethnically motivated they do have a disparate effect on minorities. For example, many insurers refuse to insure homes valued at less than $50,000 and 47% of black households (compared to 23% of white households) live in homes valued at less than $50,000. So consumer groups advocate that while refusing to insure low-value homes may not appear to be "unfair" discrimination, it is, in fact, unfairly discriminating against blacks (Committee on Banking, Housing and Urban Affairs, 1994, p. 19).

The insurance industry counters these claims with studies of their own stating almost entirely conflicting evidence. For example, the American Insurance Association testified that in their survey of 1,502 urban homeowners in Chicago, Los Angeles, Atlanta, Brooklyn, Cleveland, and Philadelphia less than 2% of all homeowners did not carry any insurance. They found virtually no differences between black and white households. In fact, in their study 99% of black homeowners were found to be insured with most (92%) having comprehensive coverage and a much smaller percent (7%) having more basic policies (Committee on Banking, Housing and Urban Affairs, 1994, p. 70). The insurance industry counters claims of unfair discrimination based on factors such as value and age of the home in two ways. One counterclaim is that state FAIR plans are specifically designed to help subsidize these "higher risk" (because the replacement cost far exceeds the market value) homes. Because of FAIR plans, insurance is available and at a relatively competitive price so consumers are not being harmed. A second counterclaim is that discrimination based on risk is the prerogative of the firm and is not only not unfair, it is good business sense.

Clearly, the mountains of conflicting evidence suggest the need for further research. It is imperative that this research be conducted by an impartial and well-trained researcher. While much of the evidence presented by both sides is compelling at first glance, nearly every study suffers from serious statistical problems.

Use of Credit History As an Underwriting Tool in Property Insurance

Brenda Cude discussed the industry's use of credit history in insurance underwriting. The industry considers credit history to be a measure of "financial responsibility" and an excellent predictor of the likelihood that one will file a claim. Insurance underwriters say they do not use credit history to predict whether policyholders will pay their premiums on time (S. Sorich, personal communication, June 2, 1995). Nor are they concerned with credit worthiness. Instead they use credit history to underwrite the insured as well as the property.

Allstate has been very open in discussing its use of credit history. However, it is unclear how many other companies use credit history as an underwriting factor.

Only three states have systematically asked insurers about their use of credit history in underwriting personal lines insurance. Both Maryland (in 1995) and Texas (in 1993) found that only a small proportion of insurers considered credit history (NAIC, 1996a). Arkansas found 60% of the insurers they surveyed using credit history in underwriting in 1996 (Arkansas Department of Insurance, 1996).

Some insurers use credit history as a screening device and reject applicants solely on the basis of their credit history. Others consider credit history as just one of several factors.

Most insurers who use credit history use it to underwrite new applications. However, some insurers use credit history to reassess policies currently in force when there is activity such as an unusual number of claims filed.

There are two different ways in which insurers obtain information about credit history. Some (including Allstate) review credit reports. Some look at the credit report primarily to confirm information given them by the applicant. Others only consider certain factors. Allstate looks only at certain "serious indicators;" examples include unsatisfied or unresolved foreclosures and bankruptcies (S. Sheffey, personal communication, June 2, 1995). Allstate will even reject an applicant with a clean driving record if he or she has a poor credit history.

A second primary way in which insurers consider credit history is through the use of credit scores. Credit report data are passed through a software algorithm, which reduces the data to a single score. Insurers use the services of a scoring vendor or their own software to produce a credit score. Some insurers use credit scores to reject applicants without considering other information (Scism, 1995).

Fair, Issac & Co., a data-analysis company, claims to have evidence of a strong correlation between certain items typically reported in a credit report and auto and homeowners insurance loss ratios. However, they consider most of the evidence to be proprietary (NAIC, 1996a).

Opponents to the use of credit history in insurance underwriting object to the practice on a number of grounds. These include the industry's failure to demonstrate a causal relationship between credit history and risk of loss; the suspicion that credit history is used as a proxy for other variables that by law cannot be used to underwrite insurance; the ability of insurers to use credit history as another way to redline; the concern that insurers will use credit reports inconsistently; and the fact that when credit scores are used, consumers are being evaluated based on a score they will never see.

The use of credit history to underwrite insurance has implications for insurers, regulators, researchers, and educators. Insurers who use credit history and disclose that information on the application can avoid some complaints from consumers who learn about the practice after the fact. Insurers should also adhere to the principles the industry has developed (NAIC, 1996a).

Insurance departments can develop legislation and regulation to protect consumers. Recommended protections include: (1) requiring insurers to follow written guidelines on the use of credit history, disclose in writing when credit history is used, and make public underwriting guidelines; (2) prohibiting insurers from using credit history to cancel or nonrenew coverage, making underwriting decisions based solely on credit history, and using credit history to determine premium; and (3) regulating firms that create credit scores for insurance underwriting.

Consumer researchers can address two important research questions:

- When used in insurance underwriting, is credit history a proxy for other variables that are prohibited from use by law?
- Are protected classes (low-income, minority) unfairly discriminated against by the use of credit history in insurance underwriting?

Consumer educators can deliver information and education to ensure that consumers know about this practice and know that not all insurers consider credit history when underwriting insurance.

Home Service System of Marketing Life Insurance to the Poor

The home service method of marketing insurance is one of the oldest methods of insurance distribution. This method of insurance distribution began in the 1800s and is still used by many insurance companies today (Blicksilver, 1990; Dalzell, 1993; Life Insurers Conference, 1995).

The National Association of Insurance Commissioners (NAIC) defines the home service method of marketing insurance as "any method of marketing insurance, regardless of type or the name by which such business is commonly known, the policies (or contracts) that are marketed, sold, serviced, issued, delivered and renewed through a system of distribution whereby initial and renewal premiums of such policy are collected on a monthly or more frequent basis at the payor's home or business by an agent of the company as an ordinary course of business" (NAIC, 1996b, p. 3). Various types of insurance are sold through this system (Dalzell, 1993; Quinn, 1995); however, life insurance makes up the majority of home service sales (Quinn, 1995). Home service companies represented 14% of the life insurance industry, and the home service life insurance sales of these companies represented approximately 29% of all life insurance policies sold (Dalzell, 1993; Savitz, 1990; Seaman, 1993).

Prior to the 1970s, industrial life insurance was the popular product sold by home service insurance agents (Dalzell, 1993). These policies were typically sold to low-income people who worked in factories to cover funeral expenses (Life Insurers Conference, 1995; Savitz, 1990). Industrial life insurance, as noted by the NAIC, has been defined by state statutes as "a life insurance product with premiums based upon the Commissioner's Industrial Life Mortality Table, written in amounts of $2,000 or less, premiums payable monthly or more often, has a facility of payment clause, has a conversion privilege and has the word industrial in the name of the type of the policy" (NAIC, 1996b, p. 6). These policies are not sold as much today, but there are still many in force. Further, the marketing method used to sell these policies still exist. Small face value policies are still marketed to low-income households by life insurance agents collecting premiums in their homes (Savitz, 1990).

The small face value life insurance policies that are sold today are called monthly account or monthly debit ordinary life insurance policies (Dalzell, 1993). The face values of these policies are somewhat higher than industrial policies (Savitz, 1990). Industrial and monthly account or debit ordinary life insurance, as well as the system by which these policies are marketed, have been criticized for many years (Savitz, 1990). In 1979, the Federal Trade Commission (FTC) issued a report indicating that the home service industry was issuing policies that are "too costly for policyholders and too profitable for insurers, has an unacceptably high lapse rate, and often is sold by agents who utilize unethical sales practices" (National Association of Life Companies [NALC], 1979, p. 19). The FTC also noted that these policies are marketed to low-income consumers and because of the high costs associated with this industry, low-income consumers are paying more for life insurance than high-income individuals (Savitz, 1990).

In a more recent article, the Arkansas Department of Insurance investigated a case and found the following information. The cost of the total premiums paid by a policyholder was much more than the death benefit of the policy. This same policyholder had purchased 25 or more small face value policies on various relatives, many of which had lapsed because he could not afford the premium. No cash value had accumulated in these policies; thus, the policyholder received nothing when these policies lapsed. In many cases proper receipts were not given, and some of the policies had a facility of payment clause (Quinn, 1995). The State Insurance Department in West Virginia conducted a survey and found that a little over half of all policies sold through home service agents lapse within the first couple of years (Quinn, 1995). Another criticism of the home service industry is that policyholders continue to pay higher costs for personal services even when the premiums are no longer collected by the agent in their home. Today, premiums for both industrial and monthly account or debit ordinary life insurance policies are sometimes mailed in or collected via automatic bank drafts. In 1990, approximately 55% of premiums paid for insurance sold by home service agents was paid by bank drafts (Dalzell, 1993; Savitz, 1990).

The information above provided an overview of industrial and monthly account or debit ordinary life insurance and the home service distribution system used to market these kinds of insurance. To date there is virtually no research that addresses the issues surrounding these types of insurance nor the method by which these types of insurance are marketed. Research conducted by the NAIC has surveyed life insurance companies only. As can be seen by the information above, some problems may exist. Thus, consumer research is necessary to determine if these types of insurance, as well as the home service method of marketing, are indeed viable alternatives for low-income consumers to obtain life insurance protection or if there are other options more beneficial to this population group.

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Overview of Multiple Imputation and Repeated-Imputation Inference (RII) Techniques

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Multiple imputation is a method of handling missing values in survey data. Multiple imputation uses stochastic multivariate methods to replace each missing value with two or more values to simulate the sampling distribution of the missing values.[3] In the resulting multiple complete data sets ("implicates") nonmissing values are identical across the separate implicates but the values imputed for missing information are expected to vary since they are imputed using stochastic methods. Multiple imputation techniques (1) produce data sets with no missing data which increases efficiency of estimation by allowing the researcher to use all available data; (2) can incorporate information in an effort to reduce nonresponse bias; and (3) provide information which can be used to estimate the extra variability in the data due to missing values. As a result, multiply imputed data sets provide a basis for more valid inference and tests of significance. Since 1989 the triennial Surveys of Consumer Finances have used multiple imputation.

The relevant question for the empirical researcher using any SCF since the 1989 survey is how to generate the best point estimate and estimates of variance for parameters of interest given the existence of multiple complete data sets. In general this is achieved by simply combining results across the separate implicates. This method of inference, based on multiple complete data sets, is referred to as "repeated-imputation inference" (RII). Montalto and Sung (1996) provide an overview of multiple imputation in the 1992 SCF and the use of RII techniques.

The value of using the RII technique in empirical research is that it averages over the variability between the individual implicates to produce the best estimate of what the results would have been if the missing data had been observed. Additionally, RII techniques incorporate the variability due to missing values in the variance estimates. In general, this will increase the estimate of variance compared to estimates which ignore this variability resulting in more stringent tests for statistical significance.

The risk of using only a single implicate for empirical research is that point estimates may be biased and the variance of these estimates will be underestimated. Since estimates of variance which ignore the variability due to missing values are downward biased, statistical significance of relationships will be overstated.

Researchers should use RII techniques when the precision of estimated parameters or the statistical significance of relationships is of importance, for example in making policy recommendations or in program evaluation. Future research should carefully study and document the practical importance of imputation variability. The implications of high proportions of imputed values for variables of interest, both as dependent and independent variables in multivariate frameworks, need to be better understood.[4]

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[3] Rubin (1987) provides an extensive discussion of both the theory and practice of multiple imputation.

[4] A full version of this paper is available from the authors.

Logit Analysis of the Probability of Having a Negative Net Worth Using Repeated Imputation Inference (RII) Techniques on 1992 SCF

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As a result of multiple imputation, the 1992 Survey of Consumer Finances consists of five data sets. The Repeated Imputation Inference (RII) technique uses information from all five implicates to provide the best point estimates based on available information (Montalto and Sung, 1996). This article illustrates how the use of RII and separate implicates affect the results of a logit analysis on the probability of having a negative net worth.[3]

Logit analyses were performed on each data set. The dependent variable is a binary variable equal to one if a household had a negative net worth, zero otherwise. Age, education dummies and interaction terms of age and education variables are used as independent variables.

In general, the logistic results are consistent across the five implicates in terms of signs and significance level of the estimated coefficients. Three independent variables are statistically significant. Age had a negative effect on the probability of having a negative net worth, while having a college degree increases the probability. The interaction term between college and age was significant with a negative effect. The only inconsistency was that the sign of high school was negative for the first implicate, but positive for the other implicates. However, high school was not statistically significant ($p<0.05$) in any of the implicates. There is substantial variability in the magnitude of the estimated coefficients. For instance, the estimated coefficient for age ranges from -0.0868 for the first implicate to -0.0533 for the fourth data set. The variability of the magnitudes of the estimated coefficients does not seem to follow any systematic pattern across the five implicates. This variability can also be revealed by the differences in the predicted probabilities across five implicates. For instance, for household heads over the age of 40 with a high school education, the difference between implicate 1 and the RII method is quite striking. Using implicate 1 will consistently underestimate the probability of having a negative net worth for this group. The bias of using any one of the implicate is inconsistent, which means there might not be a precise way for researchers to correct the bias. The data elements of this study, having a net worth or not and basic demographics, are less apt to be missing than more specific and less easily calculated variables. For this reason, the relatively consistent results from the five separate implicates and RII are not unexpected. Had the dependent variable been a specific element of net worth the results may very well have shown a number of sign or significance changes. This study demonstrates that researchers should not feel uncomfortable with general results taken from a single implicate when using variables that have few missing values. However, caution is advised when making inferences about magnitude based on one implicate.

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3. This paper focuses on using RII techniques on logit analysis. It is not the primary purpose to address issues related to households having a negative net worth. See Chen and Finke (1996) for discussions on household having a negative net worth.

Tobit Analysis to Investigate Determinants of the Level of Assets in Couples' Pension Accounts Using Multiply-Imputed Data and RII Techniques

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The 1992 Survey of Consumer Finances consists of five complete data sets because missing data are multiply imputed. Montalto and Sung (1996) stressed the value of using all five implicates and the risk of using only a single implicate in empirical research. This paper examines differences in the results of tobit analysis across the single implicate and investigates the effect of the *Repeated Imputation Inference (RII)* technique on a tobit model.[4] The sample used consisted of non-retired married couples aged 70 years or younger, with a total of 1,961 couples. The dollar value of couples' defined contribution (DCA) retirement funds was the dependent variable. IRA and Keogh funds were not included but the following tax-deferred saving accounts were included: 401(k) plans, 403(b) plans, ESOP, SRA, thrift/savings, stock ownership plans, and profit sharing plans. To examine the factors affecting the amount of DCAn funds, tobit analysis was performed. Over half (59%) of the sample had zero values for defined contribution funds. Since there were five imputed data sets in the survey, tobit analysis was performed for each set as well as for the combined data set. Inferences from each data set were combined using the method suggested by Rubin (1987). There are variations in the significance level and magnitudes of the coefficients across the five implicates and the RII estimations. For 23% of the variables (7 out of 31) there are differences in significance levels between estimates. In most cases of inconsistencies, the RII is not significant when one or more of the other estimates were, but there is one variable, husband being a high school graduate, where the RII estimate is significant but one other estimate is not significant. In general, the levels of significance among the inconsistent estimates were only at the 5% level, but for three variables, some estimates are significant at the 1% or better level, while the RII estimate is not significant at the 5% level. There is also substantial variability in the magnitude of the estimated coefficients across the five implicates. For instance, the coefficient for farming/fishing of husband's occupation ranges from -157,725 for the first implicate to -73,311 for the third implicate. As an illustration of the impact of the implicate used, predicted levels were calculated for an example couple with the following characteristics: household size is 3, home owner, husband is high school graduate and employed as operator or other laborer, couple not willing to take any financial risk, does not expect future household income to go up more than prices, has a defined benefit pension, 30 or more years until retirement, has not excellent health, Black or Hispanic, has $2,000, $60,000, $40,000 of financial assets, nonfinancial assets, and debts including mortgage loan respectively, has worked for 3 years for current employer and no employer contribution. The predicted levels from implicates 1 and 2 are about two times higher than the predicted level from implicate 3. The predicted level based on the RII technique is in the middle of all the levels from other implicates. This example shows the risk of using a single implicate in the tobit model to predict the level of retirement funds.[5]

Endnotes

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4. This analysis is similar to: Yuh, Y. & DeVaney, S. A. (1996). Determinants of couples' defined contribution retirement funds, *Financial Counseling and Planning*, 7, 31-38, available at www.hec.ohio-state.edu/hanna/yuh96.htm
5. Table and graph available from authors.

Effects of Multiple Imputation: Empirical Results Using Linear Regression to Predict the Level of Total Household Income

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While theory recommends the use of repeated-imputation inference (RII) techniques for multiply-imputed data sets (Rubin, 1987; Montalto & Sung, 1996), the practical significance of the technique may best be illustrated by studying empirical results. We use the 1992 SCF to estimate OLS regression equations for total household income separately on each of the five implicates, and using RII techniques. The dependent variable is the natural logarithm of total household income. The independent variables are selected to measure characteristics of the respondent and household which are associated with variation in total household income.

We examine differences between the implicates and the RII results in the magnitude, sign and significance of estimated coefficients. The separate results from the five implicates are similar, each explaining about 38% of the variance. Thirty-six of the 38 estimated coefficients are similar in magnitude and statistical significance, and of the same sign across the five implicates.

Estimates derived using the RII techniques confirm results which were consistent across the five separate implicates. The magnitude of the RII coefficient is always in the middle of the range produced from the separate implicates since the RII best point estimate of a regression coefficient is the average of the five separate regression coefficients. Coefficients which were statistically significant across the five separate implicates remain statistically significant in the RII results, although the levels of significance are generally more stringent in the RII results, as is to be expected.

To further analyze variation, these equations are used to predict total household income. Predictions from the five separate implicates are compared with each other and to results obtained using the RII results. Two types of comparisons are made. First, actual levels of predicted total household income for given sets of characteristics are compared to identify which implicates over predict and which implicates under predict income relative to the RII predictions. Second, to control for differences in the levels of the predicted total household income between different sets of characteristics, percent errors in the level of total household income predicted from each implicate relative to the RII predictions are calculated.

The degree of the prediction error is small (0.23% to 4.78%). That these differences are small is not surprising since we use variables which are known to have very low proportions of nonresponse in the survey data. As a result, a low proportion of the data values are imputed and the amount of variability in the data values between the five implicates is small. In a sense, we set ourselves up to find "no important differences." In this light, it is interesting that we do find differences, and that the prediction error gets close to five percent in some cases. We are also able to illustrate that the differences between results derived separately from each implicate vary in a nonsystematic pattern; specifically in our case, the tendency to over predict or to under predict, and the relative size of the prediction error varies in a nonsystematic pattern across the five separate implicates.[3]

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Endnotes

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Divorce Education: Exploring the Role for Family and Consumer Economists

A growing number of states make available or mandate divorce education courses to help parents understand the impacts of divorce and to support children through this major transition. Existing curricula focus on the social and emotional consequences of divorce. Programs in Iowa, Minnesota and Wisconsin introduce the financial consequences and responsibilities of divorcing parents.

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Overview

Over the past two decades, researchers and policymakers have focused considerable attention on the consequences of divorce. Peterson (1996) identified several reasons why divorce has received so much attention. First, the number of people affected by divorce has increased dramatically. Second, while the divorce rate has risen, the economic well-being of women and children after divorce has become a significant problem. Finally, states have enacted no-fault divorce legislation and have instituted new guidelines for dividing property, awarding alimony, assigning custody of children, and setting levels of child support.

As these reforms were introduced, researchers became interested in evaluating their effects. Also, scholars began to examine the social, emotional and economic consequences of divorce for men, women, and children. Findings from a wide range of studies have documented serious negative affects for those who experience divorce. Of particular concern has been the potential long-term negative consequences of divorce on children (see Wallerstein & Blakeslee, 1989). A wide variety of interventions have been instituted by the courts, social service staff, therapists and educators to improve the divorce process and to help parents (and others) to support children through it. These include mediation, therapy, and parent education (Parents Forever, 1996).

As of February 1996, it was estimated that some 750-800 counties in the United States had some type of educational program for divorcing parents (Braver, 1996). Recent legislation in several states makes available or mandates parent education at the time of divorce. Our review of the curricula used in most of these programs suggests that the focus is on the social and emotional consequences of divorce (see "Parent Education," 1996). The financial consequences of divorce have not been adequately addressed in divorce education for parents. Three papers described divorce education programs in Minnesota, Wisconsin, and Iowa.

Parents Forever: A Program for Minnesota Families in Divorce Transition

Minnesota law allows parties to participate in an orientation program in divorce proceedings involving children. In cases involving custody, support or visitation of children, the court may require the parties to attend an orientation and education program regarding impacts on the children. Several family collaboratives which are groups of agencies, non-profits, courts, lawyers, educators, and individuals interested in family well-being are offering divorce education programs. The Minnesota Extension Service is part of these collaboratives in many communities.

"Parents Forever" is a research-based program designed by a team of faculty from the Family Social Science Department and extension educators at the University of Minnesota to help parents learn how to make informed, child-supportive decisions during a divorce, resulting in healthy children and positive parent-child relationships[4]. The six parent education sessions are: (1) Impact of Divorce on Adults, (2-3) Impact of Divorce on Children, (4) Financial Issues and Cost of Raising Children, (5) Legal Issues, (6) Mediation and Divorcing Well. The materials are divided into an educator's handbook and a parent's handbook. The educator's handbook has visuals, lesson plans, and background materials.

The "Financial Issues and Cost of Raising Children" unit consists of two sections: adjusting to money changes and the cost of raising children. The first section focuses on working through the consequences of reduced income resulting from divorce. The section on cost of raising children introduces parents to the current costs of raising children in one-parent households and introduces questions about future costs of raising their children.

The curriculum also covers some of the pragmatic issues involved in planning for mandated community education. Some of the issues can be categorized into learners, teachers, and challenges. The learners are varied. Parents are at different stages in the divorce transition and have different economic constraints. The issues of child support, property settlement, and custody may or may not have been decided. The teachers are varied. In the collaboratives, it may be a lawyer, an extension educator or a human service provider teaching. Some may have an understanding of family economic concepts and others do not. Challenges are always present. How to help parents focus on something that they would prefer not to talk about is a major challenge. The painful situation of dividing property or assuming debt is often one of the strongest underlying problems in divorcing families and is present for most of the persons in the sessions.

Wisconsin's Marital Property Law and Efforts to Educate

With its unique marital property law and its early adoption of percentage-of-income child support guidelines, Wisconsin has been in the forefront of innovations in family (and divorce) policy reform. Faculty at the University of Wisconsin, working with extension educators in local communities, are focusing their attention on the need to educate families about the financial consequences of marriage and divorce prior to the divorce process. A better understanding of the financial and legal consequences of decisions made prior to divorce can result in choices that better support children's well-being after divorce.

The Wisconsin Marital Property Act (1986) was enacted to reflect the belief that what a couple acquires during marriage belongs to them equally. The law recognizes that each spouse makes equally important contributions to the success of the marriage. These contributions are acknowledged through equal ownership of assets acquired. Individual property still exists, coming primarily from gifts, inheritances, and property brought to the marriage. Individual property may also be established through a marital property agreement, drafted before or during the marriage.

The principle of equitable division was actually established before the Marital Property Act through the enactment of "no fault" divorce. All property other than gifts and inheritances began to be divided 50/50 with some latitude for adjustment in special cases at that time. The two laws serve to reinforce each other.

One of the greatest sources of tension in marriage is money. And divorce along with death and disability is one of the major events that can plunge a middle or upper income household into poverty or at least a reduced level of living. Divorce is the only one of these that cannot be provided for in advance with insurance. It is a vital decision, creating financial, emotional and social change.

It is a reasonable notion that if we can help people understand their financial alternatives and financial behavior we could reduce the level of tension in the marriage. But overall, it is important to understand that production and rearing of children are financial matters and that personal fulfillment and happiness in marriage are related to financial decisions: who has the income? how are decisions made and shared? how does the couple deal with expenditures for children? These all generate tension and are the potential for education about decision making and financial management. Wisconsin's educational program is designed to improve and enhance the understanding of financial decision making, estate planning, cost of raising children in ways that potentially reduce tensions and prevent divorce.

The extension educational program in Wisconsin includes discussion of the marital property agreement which serves to classify property as marital or individual. This presents an opportunity for couples to discuss many financial aspects of their marriage. The agreement must be in writing and voluntarily signed by both spouses.

Mandated Divorce Education for Divorcing Parents in Iowa

Divorce education has been required by judicial fiat in several Iowa court districts for several years. In March 1996, the Iowa General Assembly passed legislation that requires all divorcing parents of minor children to participate in a course that includes information on "the impact of divorce on children, parenting skills, and the financial responsibilities of parents following divorce." Working with the judge and community educators in one court district, faculty at Iowa State University have conducted training sessions for community educators and have prepared teaching materials to facilitate delivery of information of the financial responsibilities of parents following divorce.

Noting that many of the existing divorce education curricula incorporate videotaped segments, a two-part videotape on the "Financial Responsibilities of Divorcing Parents" was produced by the Iowa State University Extension communication specialists[5]. Interviews with two recently divorced parents introduce the financial consequences of divorce. Interviews with a district court judge and with a financial counselor review the financial responsibilities of divorcing parents, focusing on both parents' responsibilities for the financial support of their children. Using Minnesota's "The Cost of Raising Children" publication, parents are introduced to the costs of raising children in one-parent households. A teaching outline and accompanying worksheets and visuals provide guidance to the community educator for this unit of instruction.

Community educators with expertise in child development, counseling, and social work have historically taught community-based divorce education workshops. The challenge ahead is to bolster available divorce education curricula to include family economic issues, to identify qualified instructors to teach the family economic component and to adequately train others to teach this important content.

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4. The team of developers for the "Parents Forever" unit on "Financial Issues and Cost of Raising Children" consists of Drs. Sharon Danes, Kathryn Rettig, Jean Bauer, professors in Family Social Science Department and Jan Baedke, Kay Lovett, and Patricia Stumme, Extension Educators, Minnesota Extension Service, University of Minnesota. The materials will be ready for purchase in September, 1997.
5. The "Financial Responsibilities of Divorcing Parents" videotape and teaching guideline is available for purchase from Iowa State University Extension.

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Do Employee Wellness Participants Incur Lower Health Care Costs: Preliminary Empirical Results

During the past two decades there has been a rapid increase in the number of health promotion activities in many public and private companies. This study examines the relationship between health care costs and employee wellness participation. This study suggests that voluntary wellness programs may face an important adverse selection problem, where employee wellness program participants incur higher, rather than lower, health care costs.

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Introduction

Rapid increases in medical care expenditures over the past decade have given health care administrators incentives to examine ways of lowering health care costs. One strategy for reducing the demand for and use of primary health care services is to encourage individuals to participate in employee health promotion programs, including disease prevention activities, such as exercise classes and health screenings. It is widely believed that this strategy should reduce worker morbidity and premature mortality and lower health care costs and, in fact, almost all previous studies have concluded that participation in health promotion activities reduces health care costs (Pelletier and Lutz, 1988 and Pelletier, 1996)).

Wellness programs reduce health care costs if, almost tautological, participants enjoy better health, increase their productivity in the workplace, require health care services less frequently and use less costly health care services. This study examines whether participants in a wellness program have lower health care costs than non-participants through an analysis of insurance claims data for full time employees (faculty and staff) at a medium sized university in the Rocky Mountain Region (Montana State University). The findings of this study are substantively different from those reported elsewhere. Specifically, wellness program participants are found to have higher health care costs than non-participants.

This study addresses two important empirical issues common to these types of studies. First, many people do not incur any health care costs in a given year, therefore the health claims data are clustered at zero. Second, voluntary wellness programs may attract individuals in relatively poor health; hence, observing the pre-existing health status of wellness participants and non-participants is important. The study is innovative in that it utilizes non-linear regression techniques that account for the fact that a high percentage of the employees submit no health insurance claims each year; and, it uses a health status variable to control for the possibility that individuals with relatively poor health are attracted to this voluntary employee wellness program. Keeping these empirical concerns in mind, this study asks one fundamentally important question: do employee wellness participates submit lower health insurance claims than other employees?

Literature Review

During the last two decades numerous public (state and federal) and private organizations have implemented work site health promotion programs. In part, the initiation of these programs was due to the association between health status and mortality and lifestyle behaviors (Fries, Green and Levine, 1989). Because of this association, many organizations initiated health promotion programming as a tool to contain health related costs. As part of these efforts, cost containment evaluations have been conducted on specific interventions, including medical self-care, hypertension screenings, stress management, smoking cessation, physical fitness and others. In addition, several researchers have evaluated the cost effectiveness of comprehensive health promotion programs (Gibbs, et al., 1985; Bertera, 1990; Bly, et al., 1986; and Golaszewski et al., 1992). Typically, comprehensive programs offer employees multiple services such as medical screenings, physical fitness activities, stress management and nutritional interventions.

In these evaluations researchers utilized diverse participant classification systems to conduct their investigations. In some assessments, participation was based on the completion of health screenings (Gibbs, et al., 1985). In others, the selection criteria was based on the individual's work site assignment (Bly, et al., 1986);

length of employment and a willingness to follow exercise prescriptions (Golaszewski, et al., 1992); or, participation in selected health enhancement activities (Baun, et al., 1986). Still other investigators conducted cost analyses based upon employee health status (Kingery, et al., 1994; and, Steinhardt, et al., 1991). Clearly, these studies exhibit little consistency with respect to the methods used to group employees as participants or non-participants in health promotion programs.

Similarly, there is little consensus about the statistical procedures that should be used in cost effectiveness studies of work site health promotion programs. Other authors and investigators have discussed the difficulties associated with these studies (Kingery, et al., 1994 and Lynch, et al., 1991). It has been recognized that health care cost data are highly skewed and violate normality assumptions with respect to the error term. Consequently, the use of standard statistical procedures that rely on the normality assumption is problematic. In this study, this concern is specifically addressed through the use of Tobit estimation procedures (Tobin, 1958).

In addition to these complications, the assumptions underlying many of the cost-benefit studies in work site health promotion programming have been subject to criticism. Specifically, it has been argued that the primary costs, such as facilities and labor overhead, associated with health promotion programming have not been considered in most cost-benefit analyses (Warner, 1987). Also, while the quality of health promotion studies has increased dramatically during the 1990s, evidence about their effects on participant health costs is by no means conclusive (Pelletier, 1996).

Theoretical Considerations

Economic theory indicates that individuals respond to opportunity costs with regard to the use of their time and financial resources in deciding how much health care they will purchase from physicians, dentists, hospitals and other health care providers. Thus, low co-insurance rates and deductibles, which reduce the prices of hospital and physician visits to the individual employee, encourage more intensive use of health care services. Given the difficulties associated with changing co-insurance rates and deductibles and in increasing health care premiums, health care administrators have chosen to seek other mechanisms for reducing the demand for health care services by employees.

Providing incentives for healthier lifestyles by subsidizing wellness programs in the workplace encourages some employees to adopt healthier lifestyles and, as a result, they incur lower health care costs. These employees are effectively substituting away from curative health care services into preventive health care services. The net effect of the substitution of preventive for curative health care services may be a reduction in total health insurance outlays.

In fact, the effects of introducing wellness programs can be complex. The responses individuals make to the introduction of wellness programs may be categorized into three groups. Some individuals, such as those earning higher incomes (or with higher levels of education), may already have positive incentives to engage in healthier lifestyles because the opportunity costs of poor health may be particularly high. These individuals may simply substitute into low cost wellness programs offered by their employer and away from more expensive private programs. In such cases, monetary benefits accrue to the individual and monetary costs are borne by the institution. Other individuals, who view the consequences of poor health as less costly, may be unwilling to allocate any time to improve their health status through any health promotion program. However, many individuals may be attracted toward a healthier lifestyle when access to preventive care becomes substantially less costly. Whether a wellness program results in lower health care costs depends on whether the individuals in this third group respond to the change in price incentives.

The above discussion suggests that participants in voluntary wellness programs could either have higher or lower health care costs on average than non-participants.

Empirical Model

Data

The amount of health care costs incurred by the individual is affected by many socio-economic and demographic characteristics, as well as participation in wellness programs. These characteristics include the employment classification of the individual (i.e., whether they are faculty or staff), education, earnings, age, gender, number of dependents and the general health status of the individual. This study integrates data from three sources (health insurance claim files, human resource files and employee wellness participation files).

Health claims information contained data on the amount of health claims by disease or injury category (i.e., ICD-9) for each employee for three years from July 1, 1988 through June 30, 1991. As noted above, the study uses the first year of data (for the period July 1, 1988 through June 30, 1989) as an indicator of the general health status of each individual in the sample. The remaining health insurance claim information (for the period July 1, 1989 through June 30, 1991) is used as the measure of total health insurance claim amounts. Only employees working for the entire 3 years were included in the study.

The human resources database was used to determine the gender, age, job classification, level of education, number of dependents and earnings for employees. This group included 1,757 employees, of which 785 were employee wellness program participants.

Employee Wellness Office files were used to determine whether an employee participated in health promotion programs. Each individual who participated in at least one health promotion activity during the period from 1988 - 1991 was categorized as an active participant. Health promotion activities included blood, mammogram and colon screening, the completion of a Health Risk Appraisal and the completion of a liability form for participating in exercise classes. However, the data indicated only whether individuals participated in screening or activity classes. No measures of intensity of involvement were available. In addition, employees who exercised independently, using a health club or other providers of wellness activities outside the university, were considered non-participants even though they were active participants in some other screening and exercise programs. Table 1 provides summary data on the personal and demographic characteristics of these participants and non-participants in the MSU wellness program.

Table 1
Sample Characteristics

Item	Non-EWP Participants	EWP Participants
	(percentages)	
Submitted at least one health claim	44	46
Faculty members	57	49
Education level:		
No college	40	35
Bachelors degree	18	17
Masters degree	17	20
Terminal degree	24	28
Male gender	61	40
Dependents (yes/no)	9	7
Number of Observations	972	785

Model

The empirical model examines the relationship between health insurance claims and participation in the employee wellness program. The dependent variable is the dollar value of health care claims for the two year period July 1, 1989 - June 30, 1991. The set of explanatory variables includes the individual's participation in any employee wellness activity (EWP), general health status (HEALTH), employment classification (CLASS), education (ED), log of earnings (LEARN), age (AGE), gender (GENDER) and dependents (DEPEND). The model is specified as follows:

$$CLM = a_0 + a_1 EWP + a_2 HEALTH + a_3 CLASS + a_4 ED + a_5 LEARN + a_6 AGE + a_7 AGE^2 + a_8 GENDER + a_9 DEPEND + e$$

The variable of most interest in this model is EWP, a zero-one dichotomous variable, which is set equal to 1 if the individual participated in health promotion activities, including health screening or exercise activities. Previous research would suggest that the expected sign on the coefficient associated with EWP is negative. That is, employee wellness participants have lower health insurance claims. However, as noted above, at least when participation is voluntary, this may not be the case.

The health status variable HEALTH, a 0-1 dummy variable, identifies individuals who submitted health insurance claims in fiscal year 1989. Individuals submitting health claims in fiscal year 1989 were assumed to be in relatively poorer health than individuals who did not submit health care claims.

Individuals are divided into two employment groups, faculty and classified staff. They are also differentiated by their level of education, earnings, age, gender and whether they have any dependents. Earnings are measured by the highest salary paid over the two year period from July 1, 1989 through June 30, 1991. An age squared term is added to the model to accommodate the fact that older individuals realize a higher rate of increase in health care costs than younger individuals.

In any population, over relatively short periods of time such as one or two years, many individuals submit no health care claim. Thus, in a large number of observations the dependent variable takes on a zero value and hence, the error term in the estimated model is not normally distributed. Tobit statistical estimation procedures explicitly recognize that the dependent variable is not normally distributed at the limit value, but still uses all observations, including those clustered at the limit value, to obtain efficient (minimum variance) estimates of the parameters of the relationship between the dependent variable and the explanatory variables.

Results

The results obtained by using the Tobit procedure for estimating the above empirical model are reported in Table 2. The coefficients associated with the level of education (as indicated by bachelors, masters and terminal) and the presence of dependents in the household are not statistically significant. The other variables, including employee wellness participation, health status indicator, employment classification, earnings, age and gender are all statistically significant.

Most importantly, the results indicate that participants in the MSU EWP have higher average claims than do non-participants. This result differs from those reported in numerous previous studies, but is extremely robust for this sample. For example, the same result is reflected in the detailed data on health care expenditures by ICD-9 classification for each group. This data shows that employee wellness participants have significantly higher average claims for mental disorders, genitourinary illness and skin disease. They also have a significantly higher probability of submitting any claim for infections and parasitic diseases, endocrine (nutritional and metabolic) illness, mental disorders, nervous system problems, circulatory, respiratory, genitourinary, complications of pregnancy/child birth, skin diseases, musculoskeletal/connective tissue and three general classifications (i.e., ill-defined conditions, injury or poisoning and supplemental factors).

Table 2

Determinants of the Amount of Health Care Claims Submitted

Item	Parameter Estimate	p-value
Intercept	-40.62	0.0001
EWP participant	1.61	0.0001
Health status (poor)	6.99	0.0001
Faculty classification	-2.14	0.0014
Education:		
Bachelors degree	-0.87	0.1565
Masters degree	0.38	0.6270
Terminal degree	0.37	0.6551
Earnings (log)	-4.06	0.0001
Age	-0.31	0.0620
Age2	0.01	0.0126
Male gender	-1.75	0.0002
Dependents (yes/no)	0.29	0.6842

Log likelihood = -1,357

In addition, these results suggest that those individuals submitting health care claims during the fiscal year prior to this study had significantly higher health care claims. Individuals classified as faculty incur lower health care claims than individuals classified as staff. Moreover, individuals earning higher salaries have significantly lower health care claims than those earning lower salaries. The coefficients associated with the variables AGE and AGE^2 indicate that health care claims decline until the individual becomes about 40 years of age. Thereafter they begin to rise. Finally, males in this study incur lower health care claims than females.

Conclusions

This study has examined the effects of the Employee Wellness Program on health insurance claims by participants. Participation in employee wellness activities offered is strictly voluntary. Hence, this study has considered a group of individuals who actively decided whether or not to participate in Employee Wellness Program activities. The study attempts to control for the potential adverse selection problem, that individuals who already face health problems are more likely to participate in the wellness program, by using an indicator of the individual's preexisting health condition as an explanatory variable. While the refinement of this variable should be considered in future studies, the investigators identified a critical issue which has been omitted in previous investigations. In addition, estimation problems associated with truncation of the dependent variable (the dollar value of health care claims) at zero are explicitly accounted for through the use of Tobit estimation procedures. However, a rather controversial result is derived; that is, higher health care costs are incurred by participants than by non-participants in this voluntary wellness program. This section discusses this important result, considers the limitations of this study and identifies potential avenues for future research.The fact that participation in the EWP is voluntary introduces a self-selection bias problem, in that individuals with adverse health conditions (and higher health care costs) will "self-select" into the EWP. This study has attempted to address this problem by utilizing information on health claims in the year prior to the estimation period as an indicator of the individual's general health status. However, this measure may not be a very satisfactory proxy and one important issue in future research concerns the development of better measures of the health status of individuals in the population of interest that can be used to address the self-selection problem more effectively.

In addition, better measures are needed to classify the exercise behavior of all individuals in the study. The classification procedure used in this study did not allow

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the investigators to measure intensity of participation in health promoting behaviors. It is quite possible that many non-participants led healthy lifestyles and therefore generally faced few serious health risk factors. In future studies, information about the individual's health promotion activities, both on- campus and off-campus, and intensity of use are important.

Not withstanding this attempt to deal with the self-selection and participant participation problems, the major finding of this study is that participants in the MSU EWP had significantly higher health care claims than non-participants. The regression results imply that, over the estimation period, health care claims for participants were approximately $40 higher than those for non-participants. This estimate is lower than the simple difference between average costs of health care claims submitted by EWP participants and non-participants because other factors, such as personal and demographic characteristics, which explain some of this difference.

It is important to recognize that the results of this study should not be viewed as evidence that wellness programs are ineffective or even harmful with respect to the health of participants. However, it does suggest that in voluntary programs health care expenditures for wellness participants may not be lower than for non-participants. Further research is needed to more thoroughly assess whether wellness programs generate economic gains or losses. This research should involve realistic assessments of the health status and health care costs of program participants had they not joined the wellness program because, in this context, the right question is not whether participants need more health care services than non-participants. Rather, it is whether or not wellness programs reduce the health care costs of participants below those that they would have been incurred in the absence of the program.

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Endnotes

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Employers Pay Dearly for the Poor Personal Financial Behavior of Employees

Financial behavior of employees affects employers' bottom line. When employees take time from work to deal with financial problems, spend time at work worrying about financial difficulties, have accidents because they are tired or not concentrating at work due to financial difficulties or steal from employees because of financial stress, it costs employers. A conservative estimate is that 15% of employees experience financial stress at any time. Employers get a five-to-one dollar return for spending on employee assistance.

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Financial Behaviors

At the individual and family level, a number of personal financial mistakes and careless behaviors exist. Examples of these behaviors include occasionally spending too much money, feeling emotionally stressed about financial matters and writing a bad check (Garman, Leech and Grable, 1996). Alone, these factors generally do not cause poor financial behaviors. In fact, most people experience many or all of these personal financial mistakes and careless behaviors at some point in life. In reality, they are some of the normal and quite typical financial practices, experiences and concerns of living in a modern society.

These personal financial mistakes and careless behaviors may lead to serious problems that negatively impact one's employer. This happens when an excessive number of these personal financial mistakes and careless behaviors, or factors, occur or accumulate, often in combination with other events and catalysts, particularly over a relatively short period of time. They collectively can result in poor financial behaviors.

Genuine poor financial behaviors are personal and family money management practices that have consequential, detrimental and negative impacts on one's life at home and/or work. While some of these behaviors, such as writing a check with insufficient funds in the account, may be classified as personal financial mistakes and careless behaviors, when they occur in excess they are in poor financial behavior. In addition, there are a number of other actions, such as garnishment of wages, that are always indicators of poor financial behavior.

Methodology

The literature review began with a search of over 12,500 journals, dissertations and books on the internet using a variety of key words and phrases. This was followed with a similar search of additional thousands of journals, newspapers, and the *Congressional Record* using Infotrak. These computer searches used such key terms as "finance," "personal finance," "credit," "bankruptcy," "substance abuse," "productivity," "accidents," and "stress."

Three manual searches of published books and proceedings also occurred: one of various library reference indexes, which led to a number of journals, and a second of the personal libraries of the researchers, which included a number of unpublished conference proceedings. A number of telephone calls were made to selected researchers as well as to find some of the more-difficult-to-locate publications.

Costs

There are many substantive areas of costs associated with poor financial behaviors. Poor financial behaviors negatively impact both families and employers. One major source of cost is stress. Tang and Hammontree (1992) estimate that stress costs businesses between $100 and $150 billion a year in lost productivity. Both mental and physical factors influence stress and poor financial management is one example of a mental factor. It can be caused by or can cause stress.

Stress can lead to absenteeism which costs employers between $25 and $35 billion each year Rogers & Herting, 1993). Even when employees work, they may be less productive because of taking breaks to attempt to deal with financial matters or because they take time to think about such concerns. They may reduce other employees' productivity by taking time to talk about their problems.

If an employee attempts to deal with stress by abusing substances, costs can increase further. Staroba (1990) reports that drug and alcohol abuse cost the American economy at least $177 billion a year, including $99 billion in lost employee productivity.

Clearly, the negative impacts of a person's poor financial behaviors at work lead to extremely high costs that are incurred by the employer. The relationship between poor financial management and overall reduced employee productivity is not linear but spirals to failure in personal and/or employment life.

Based on this study, it can be conservatively concluded that approximately 15 percent of workers in the U.S. are currently experiencing stress from personal financial mistakes and careless behaviors as well as from poor financial behaviors to the extent that it negatively impacts their employment productivity. Depending upon such employment factors as employee income levels, their range of ages and stage in the life cycle, and the cost of living in an area, the proportion of workers experiencing financial problems that negatively impact productivity for a single employer could range as high as 40 to 50 percent. The full extent of the costs on employers is unknown.

Cumulative Nature of Problems

There is an interlinking and cumulative nature of poor financial behaviors and stress, and it explains why the circular nature of life experiences, including many stress factors, can get out of balance. On occasion, some stress factors force the harmonious nature of life out of balance. When various life events and factors get out of control, including financial problems, they can result in failure in family life, personal finances, and/or employment. These out-of-balance factors, such as failure of a personal relationship, poor financial behaviors, and substandard job performance, are related.

The most advantageous time for successful employer intervention is before the problem(s) get totally out of control. Goldberg (1994) reported that there is a five-to-one return to employers for every dollar spent on an employee assistance program. Financial health programs are a new wellness trend (Cash, 1996).

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Delivering Useful Information for Consumers: Conceptual and Methodological Issues

By understanding where consumers get their information, we can develop a much more efficient and effective information program. To facilitate the delivery of information, a taxonomy of information sources is developed based on who provides information and where consumers obtain information, and a model of search which incorporates sources of information is presented with methodological issues.

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Introduction

Although understanding from which information sources consumers get their information is an important issue for marketers and public policy makers to effectively disseminate information (Schmidt & Spreng, 1996), previous research has tended to focus on consumers' "extent" of search rather than "source" of information. Thus, while consumers can search a variety of information sources, a systematic investigation of which information sources are sought by which types of consumers, and to what extent, has been limited (Feick, Herrman & Warland 1986).

In this study, a model of consumers' external information search across a variety of information sources is proposed. Before incorporating sources of information into the traditional search model, a taxonomy of external information is presented. Finally, the issues which need to be considered in operationalizing empirical research of search are addressed.

Taxonomy of Information

Sources of consumer information can be first distinguished into internal and external information sources (Beales et al. 1981). Internal source refers to consumer's memory from which the information can be retrieved, including accumulated knowledge from previous active search, experience with products, or passively acquired information during normal daily activities (Beales et al. 1981; Punj & Staelin 1983). External sources include friends and family, expert consumers, books, magazine articles, consumer-rating organizations, publicity, advertising, in-store display, and salespersons.

Although taxonomy of external sources has not been rigorously investigated, Claxton, Fry and Portis (1974) divides sources into in-store and out-of-store sources, while Newman and Staelin (1973) classified into four sources-personal (friends, relatives, or neighbors), neutral (books, magazine or newspaper articles, and pamphlets), advertising, and retail outlet. Beales et al. (1981) grouped into three: third party, seller-controlled sources, and direct inspection.

These schemata seem to have been developed based on two criteria: (1) where the information is found (in-store versus out-of-store) and (2) who provide the information (personal, seller, or third party). Then, the taxonomy of information should be based on these two criteria. This classification can be useful to draw implications for policy makers. By differentiating information providers, policy makers can identify the effective agents to disseminate information, while by differentiating where information is collected, want-to-be-communicated information can be provided at the right places.

The Model

The starting point for this model is the cost-benefit framework of search: a consumer will search a particular information source if the benefits of searching that particular information source exceeds the costs involved. However, unlike previous models which ignore sources of information, the model of consumers' external search across information sources is based on Weitzman's (1979) conceptualization, considering differences among information sources. "There are a number of different opportunities or sources, each yielding an unknown reward. The uncertainty about the reward from a source can be eliminated, at a fee, by searching or sampling. Each source has its own independent probability distribution for the rewards, search cost, and search time, ..." (Weitzman, 1979, p. 641).

In this study, the benefit of search a particular information source is defined as an immediate reward from searching a particular information source, which includes the utilitarian value of acquired information (Wilton and Myers 1986) and the hedonic value of the search activity (Babin, Darden & Griffin 1994; Beatty & Smith 1987). The utilitarian value of information refers to the usefulness of information (i.e., how helpful the information is for a consumer to solve a problem), while the hedonic value of search activity reflects the search's potential entertainment and emotional worth. Each source of information provides utilitarian and hedonic values at a different level. In addition, the cost of search varies across different information sources.

The model proposed in this paper also incorporates the potential determinants of consumers' external information search based on a review of psychology and consumer behavior literature. The potential determinants of consumers' external information search include characteristics of information sources; a consumer's internal information; consumer, product, and situational characteristics; and choice certainty.

Empirical Issues

Many previous researchers reported that information search is difficult to quantify. During the last three decades, numerous measures of search have been used including both single measures which measure only a single aspect of search behavior and some aggregate measures of search. The most popular search measure has been the number of stores visited, while a variety of other measures were introduced, including duration of search time, time spent at store, deliberation time, the number of brands, models, and/or product characteristics considered, and whether or not certain information source was consulted.

In developing composite measures of search, researchers often assigned weight to search efforts. With the exception of Duncan and Olshavsky's (1982) study, in which a panel of experts determined the efforts weights, the weights were arbitrarily determined by the researchers. That is, many previous researchers have measured a variety of different aspects of search without explicitly recognizing differences. Using different operational definitions of search, they investigated consumers' search and the effects of various determinants on search. These operational differences, of course, have led to conflicting findings, limiting the generalizability of previous research.

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Endnote

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The Effects of Trade Liberalization on Consumers in Developing Countries: In Terms of Information Flow, Choice Alternatives and Redress

Little attention has been given to the effects of trade liberalization on the consumers of developing nations. It is argued that trade policies and consumer welfare are closely linked and in developing countries, initially, trade liberalization may weaken consumer welfare if protectionistic measures are not in place.

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Trade liberalization is altering the world economic landscape. The share of trade in the GDP of developing countries has risen from about 33% in the mid-1980's to 43% today and could exceed 50% in the next decade (Qureshi, 1996). As a result, the World Trade Organization estimates that real world income could increase by $510 billion annually, of which some $116 billion would accrue to developing and transition countries (Harmsen, 1995). The extent of trade liberalization has been well documented, however, the effects on consumer welfare have not. When three-fourths of the world population is living in LDC's, one may wonder why. Consumers in these countries are exposed to higher risks by unsafe or inappropriate products, inappropriate or inadequate information, and inadequate redress systems.

Consumers in LDC's can easily be put into a situation where the majority of goods available become unfamiliar. As a result, they are ignorant of their quality and the competence of the dealers is mediocre as well. This increases the risk of product safety issues, as well as violates the right to information and education. When consumer rights are violated, then it becomes important to address public policies. If the consumers are at a stage where their power in influencing such measures is limited, then it is the responsibility of the country and international organizations as well as the social responsibility of the manufacturer to protect these consumers.

When economists discuss trade policy issues in developing countries, they generally pay little attention to the effects of such policies on the consumers of those countries. The purpose of this paper is to argue that such neglect is a mistake, that the trade policies of developing countries and consumer welfare are closely linked. It argues that trade liberalization in developing counties may weaken consumer welfare in its beginning stages if proper protectionistic measures are not in place. The point we are working toward is consumers will gain with deregulated trade practices but only with regulated business practices.

Related Literature

Effects of Trade Liberalization on LDC's Consumers

The proliferation of goods and services in developing markets has brought an urgent need for the protection of consumers. Since consumerism has remained in its infancy in developing countries, governments are under continuous pressure from the International Organization of Consumers Unions (IOCU) to protect the interests of consumers, especially protection from fraudulent claims or unsafe products.

In LDC's, the marketplace has historically been a seller's market where consumers have little or no protection, education, or information about the market (Thorelli, 1990). Thus, Thorelli (1988) has suggested that priorities for consumer policy for LDC's, i.e., consumer protection, education, and information, should be exactly the reverse of those in MDC's, i.e., consumer information, education, and protection. These issues must be addressed before trade can be mutually beneficial. If not, the consumer can stand to lose much more than they gain.

With trade liberalization, consumers in developing countries may gain with increased consumption possibilities, cost savings, innovation and greater choice alternatives. Consumers may suffer from trade restrictions by increased prices of foreign goods, decreased supply of foreign goods and more limited choice alternatives. Gains and/or losses can be associated with trade. Thus, the effects on consumers must be assessed in order to distinguish the total impact of liberalization. The following discussion is based on the exemplary work by Michael R. Reich (1988), in an attempt to highlight the problems associated with trade and consumer welfare, which is used to guide the discussion toward the ultimate conclusion, the need for the simultaneous implementation of protection and liberalization in LDC's.

Information Flow. Consumers in developing countries frequently have inadequate, inappropriate, or incorrect information. Typically, the flow of products from rich to poor countries precedes the flow of information. International trade can create situations which provide little incentive to invest in specific information for local consumers, especially when competition is limited. Foreign companies may have less interest in providing information, reflecting a lower level of commitment to the market or different views on corporate social responsibilities.

In addition, a large proportion of consumers in developing countries are illiterate. Much of the information they receive is by word-of-mouth and may be more apt to improper dissemination. Thus, inappropriate products confer harm instead of benefits. Lack of adequate information is a major constraint on consumer choice necessary for a consumer to make an informed decision.

Choice Alternatives. Consumer choice is limited by constraints by corporate and government policies. Consumer choice is shaped by the information provided by firms through advertising. It biases consumer choice toward the product and shifts consumption patterns to mirror the foreign firm's country. In addition, individual choice can be limited by government policy. It may be used to achieve social objectives deemed more important than consumer choice. Governments and corporations exercise substantial influence in structuring individual choice in poor countries. But, they may not benefit the broader interests of consumers.

Redress. Despite widespread trade malpractices in developing countries consumer complaints are remarkably few (Rachagan, 1992). The lack of consumer rights coupled with law, the lack of awareness of rights, and the absence of proper redress mechanisms are important reasons for this. In instances where the media and, if existing, consumer organizations expose unfair practices, faulty products, etc., the government could comply, but without appropriate laws, the wrongs cannot be made right. It is law that serves the primary function of distinguishing between what is allowed and what is not, and no law means no consumer protection. Consequently, exploitation is inevitable.

Conclusions

It seems quite clear that gains can be derived from trade liberalization, but typically articles focus on the country gains of the developing world over a longer term (e.g., increased purchasing power), but what about consumer welfare in the short term? Without a higher standard of living, consumers lack the ability to obtain the education, the information, the legal system and the institutions that would allow them to make better choices. For example, most developing countries are importing technical products, which are in fact more costly to the consumer, since more harm can result from a faulty product of this nature. These consumers are not purveyed with accessibility of redress mechanisms when it does occur. Although trade liberalization provides wider options for these consumers, they need to be protected with appropriate information regarding product usage, and have access to redress if needed. Then and only then will welfare gains be directed to the consumer.

The importance of consumer groups in poor countries and international consumer organizations is apparent. Several have emerged, but the role of consumer groups in developing countries deserves attention.

This paper is only an intuitive exercise. Beyond this, it is hoped that it will help alert researchers that the effects of deregulation on consumers must be examined before trade liberalization should take place.

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Invited Panel Session: A Comparison of the Structures and Current Issues of the Consumer Movements of Canada, Australia and New Zealand

This session focused on international consumer movements and policy. Representatives from the Federal government, voluntary or non-government organizations and academia compared current consumer issues, idealogies and protection frameworks in Canada, Australia and New Zealand.

Louise Sylvan, President Consumers' Association of Australia
Lydia Shevchuk, Office of Consumer Affairs, Industry Canada, Winnipeg, Manitoba
Anne Pigeon, Office of Consumer Affairs, Industry Canada, Ottawa, Ontario
Sue McGregor, Mount Saint Vincent University, Halifax, Nova Scotia, Canada, ***coordinating author***
Margaret Charters, Syracuse University, panel moderator

We are pleased to announce that Louise Sylvan was able to join the discussion on the day of the panel, as she was en route from Australia to Africa. She clarified updates of the Australian presentation as was relevant and appropriate. These are incorporated into each of the three Canadian sessions. Margaret Charters, Chair of ACCI's International Consumer Affairs Committee, moderated the panel and shared current information gleaned from a contact in New Zealand since the Canadians had problems garnering information from both the government office and the Consumer Institute of New Zealand.

For clarification, all information was obtained from faxed updates from foreign contacts, relevant internet web sites for both government and consumer organizations and e-mail as well as personal communications and experience with the issues.

Consumer Protection Frameworks

Lydia Shevchuk shared an overview of the organizational structures of all three Commonwealth countries. Each has a federated structure (national level of government and provincial, territorial or state governments which all have some degree of responsibility for consumer protection). This overview sets the context and policy environment in which consumer issues arise and to which the consumer movement responds. Three themes were used to organize the discussion and analysis: organizational structure, jurisdictional issues and fiscal pressures.

Organizational Structures

Canada. Canada has a three tired consumer protection framework comprised of: (a) the Department of Industry Canada at the federal level (previously the Department of Consumer and Corporate Affairs Canada (CCAC)), (b) ten provincial departments (which have various titles) and (c) two territorial governments (soon to be three). Canada's protection framework was put in place in the late 60s and early 70s during a time of economic prosperity when people respected social and civil rights to the extent that President Kennedy enacted the basic consumer rights of information, safety, a voice and a choice. CCAC, established in 1967, resulted from an amalgamation of legislation already on the books for up to 100 years as well as the enactment of new legislation. A 1991 analysis revealed that there were over 1000 pieces of direct and indirect consumer protection legislation spread over the three levels of government.

Over the next 25 years, the momentum of the consumer movement in Canada slowed down, most visible by the gradual disbanding and amalgamation of consumer departments, leading to a situation where there are only two provincial departments with the word consumer in their title. The remaining have consumer functions embedded in business or commerce, justice, housing, public safety, even municipal affairs. At the federal level, CCAC was disbanded in 1992 and replaced by a newly amalgamated super department called Industry Canada. There is now a much smaller Office of Consumer Affairs as well as the traditional administration of competition legislation in another, much larger, division. Indeed, much of the legislation dealing with food and drugs and health protection has been assumed by Health Canada, and Agriculture and Agri-foods Canada. As governments downsized, Cabinet portfolios were eliminated or combined, and, since consumer ministries were seen as junior Cabinet positions, they became especially vulnerable to fiscal pressures (to be discussed shortly).

Australia. A government office representing the consumer interest did not evolve in Australia until the mid eighties. The Federal Bureau of Consumer Affairs was announced in 1987 and was established as a separate body to assist the then Attorney General on Consumer Affairs. The Bureau (originally the Office of Consumer Affairs) was a separate Bureau within the Department of the Attorney General. As was the case in Canada, the intention of this initiative was the amalgamation of various government services directed at protecting the consumer and informing business. The National Consumer Affairs Advisory Council (NCAAC) was established in 1987 to afford a means of providing advice on matters of national consumer interest to the Minister of Consumer Affairs. Membership stemmed from consumer, business, trade and governments. The counter part of the Federal Bureau of Consumer Affairs was the Trade Practices Commission (TPC) which dealt with complaints concerning breaches of the Trade Practices Act. As with Canada's Competition Bureau, the TPC saw competition as a means to protect the interest of the consumer. As well, all of the eight states and territories now have separate Consumer Affairs Agencies, the last one being Tasmania in 1988. These State agencies were established so as to create a wider network of the federal structure, for purposes of decentralization, and to streamline consumer policy activities. Each State and Territory has its own protection laws which mirror parts of the Federal Trade Practices Act as well as provide even wider coverage.

Recently, in Australia, the Trade Practices Commission of 1974 and the Prices and Surveillance Authority of 1984 were merged into the new Australian Competition and Consumer Commission (1995). The Australian Consumers' Council (ACC) replaced the NCAAC in 1993 as an advisory body to the Federal Minister of Consumer Affairs on strategies for more effective consumer protection. Margaret Charters reported that the Australian Federal Bureau of Consumer Affairs and the Small Business unit have recently combined into one Ministry (no information was available about this very recent change). It seems that Australia is not immune to the condition of "amalgamation and mergers" of government departments either.

New Zealand. As with Australia, New Zealand did not formally represent the consumer interest at the federal level until the mid eighties. The Ministry of Consumer Affairs (1987) was officially launched as a division of the Department of Trade and Industry, which was restructured in December 1988. The Ministry is now a subdivision of the new Ministry of Commerce (1988). The Commerce Commission administers the Commerce Act (1975) and the Fair Trading Act (1986). The consumer affairs department has its own funding but the Minister of Consumer Affairs is NOT a member of Cabinet; rather, she reports through the Ministry of Commerce. The key sections and services (referred to as bureaus or divisions in the other countries) in the Ministry of Consumer Affairs include the Policy Section, the Operations Section, the Product Safety Section (1987, used to be the domain of the now defunct Product Safety Council), and the Weights and Measures Services (1988, previously part of Department of Labour) and currently called the Trade Measurement Unit (TMU) which has been in existence for over 150 years. The Complaints and Liaison Service (as of 1989) works with community groups and disadvantaged consumers via the five regional offices of the Federal Ministry throughout the country. The Ministry of Consumer Affairs is also responsible for tourism, overseas trade and energy. There is also an Office of the Ombudsman, appointed by the Prime Minister, which deals with consumer complaints regarding banking, insurance, state owned enterprises and power utilities. The Citizens Advice Bureau handles consumer inquiries and trains consumer volunteers.

It is clear that consumer departments in each country have been set up and then changed to meet the specific needs of their citizens, to respond to "local" marketplace conditions and to accommodate different policy environments. This diversity leads to the variations in specific programs and laws that have been enacted to regulate the marketplace. There is a developing concern in all three countries that the consumer voice is being lost or becoming less visible and less audible. Consumer groups are also confused, wondering which side the minister is on if s/he has to represent both the consumer interest and the business interest. Indeed, consumer policy is now becoming more integrated into a broader marketplace policy which is aimed at the proper functioning of the marketplace rather than advocating a consumer perspective. This leads to marginalization of the consumer voice because consumer protection is increasingly structured around fair competition, deregulation of the market and intensification of market policy.

Jurisdictional Issues

Lydia noted that both Canada and Australia have multi-tired systems of consumer protection, dictated by their constitutions. In both countries, the federal level is responsible for trade and commerce, competition and market structure, banking (except state banking in Australia and credit unions in Canada), weights and measures, product safety, bankruptcy, misleading advertising and intellectual property. The provinces or states deal with fair trading, civil and property right and tort law (which covers the sale of goods and services),

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credit, consumer redress and complaint handling, and registration and licensing of businesses and professionals. However, unlike Australia, which has mirror or parallel consumer affairs departments at the state and territorial levels, there is no consistency among provinces and territories in Canada with respect to departments that deliver consumer programs and services or what is actually delivered. Remember that considerable overlap was evident in the finding that over 1000 pieces of consumer related legislation are on the books in Canada.

As with the issue of loss of visibility of the name "consumer", such lack of consistency in the delivery of consumer services in Canada leads to confusion on the part of the consumer. Although it is usually fairly clear in the minds of officials what their area of jurisdiction is, this is not transparent to the consumer! To them, it may be totally irrelevant whether an issue is federal or not; they know they have a problem or they need information and they know they encounter considerable frustration trying to find the right person to help them. This is further exacerbated when government departments have similar names. A recent federal government study revealed that over 60% of consumer calls they received were referred to another jurisdiction or agency.

Another fallout of jurisdictional issues is the creation of a patchwork of laws leading to inter-jurisdictional inconsistencies, internal barriers and gaps in enforcement. This is not such an issue in Australia which ensures that the state and provincial acts mirror the federal Trade Practices Act. One has to wonder what the implications will be of the recent merger of the Trade Practices Commission and the Prices and Surveillance Authority into the new Australian Competition and Consumer Commission (1995). Will this bode well for consumers or not? In Canada, a current problem is the inability of one jurisdiction to prosecute fraudulent businesses which exist in another jurisdiction. To address this issue, there is a major initiative underway to eliminate barriers that arise because of the patchwork system of laws across Canada - this is the *Agreement on Internal Trade*.

Fiscal Pressures on Government

In response to high debt, high deficits and poor economic growth, governments have undergone the massive exercise aimed at reducing operating costs. Consumer agencies are continuing to go through a process of reorientation, regulatory reform and institutional streamlining. One result is that demands from consumer groups to regulate or rectify marketplace failures through enforcement measures are at odd with the fiscal reality so much so that these very consumer agencies are loosing their core funding to be the countervailing voice in the marketplace. All of the major consumer organizations in all three countries have recently lost their core funding from government consumer offices: Consumers Association of Canada in 1992, Consumer's Association of Australia in 1996 and the Consumers Institute of New Zealand in 1997. Granted there are still grants and contributions programs but the amount of money has decreased alarmingly and the funding criteria have become much more stringent, open to more issue specific groups.

Due to fiscal restraints, there is a move away from regulation towards self regulation and voluntary codes of conduct or practice, towards harmonization of cross-jurisdictional legislation and the emergence of new framework law. This is being coupled with a re-emergence of consumer information and education initiatives, the purpose being to increase the consumer's ability to manage their own affairs in the marketplace. The following section on consumer issues provides more evidence of this shift in market philosophy. Governments themselves are using new technologies to deliver information: government agencies in all three countries have web sites and e-mail. Australia and Canada have developed videos and CD-ROM's and New Zealand has developed consumer information packages for indigenous people (a new focus for them).

Consumer Organizations

Anne Pigeon explained that, within each of these countries, there are active consumer organizations which are all being challenged in times of fiscal constraints and the shifting momentum of the consumer movement. There is general agreement in the literature that the consumer movement is in its mature stage moving towards a more focused future. It is challenged to do more and different things with fewer and different resources and partners. The organized voices of the consumer are particularly hard hit by the reality of the 90s but seem to be thriving despite all.

Canada. The Consumers' Association of Canada (CAC) was formed in 1947, is currently celebrating its 50th anniversary. Up until the early 90s, it was seen to be "the voice of the marketplace" in Canada. Along with CAC, other consumer groups in Canada depended almost totally on government funding for their survival. But once Industry Canada cut its core funding, CAC became just one of many voices clamouring for declining funding for consumer related issues. The Canadian Consumer magazine has been replaced by a quarterly newsletter distributed by the United States Consumer Union (this is a long and protracted story better left for another time). Membership has declined steadily from 100,000 to

10,000. An up and coming consumer voice in Canada is the Quebec based consumer groups, given that 80% of consumer organizations are based in this one province.

Australia. Each state and territory in Australia has a consumer organization, whether they be privately incorporated or federally funded. Australia has two especially large consumer organizations, the Consumers' Federation of Australia (CFA), the umbrella organization for 90 plus member organizations. It was funded by government but Louise clarified that this funding was cut in 1997. The Consumers' Association of Australia (CAA), established in 1959, would be the counterpart to CAC in Canada except it is not funded by government. It is a huge organization which receives it funding from its more than 150,000 subscriptions to its magazines, CHOICE and *Consuming Interest* (the policy and issue perspective).

New Zealand. Once the operational arm of the now defunct Consumer Council Act (1966), the Consumers Institute of New Zealand was run and funded by the Ministry of Consumer Affairs until recently. Louise informed us that the Institute lost its funding from the MCA early in 1997, so recently that it has yet to determine how this will affect its future. Its main source of funding may now be the magazine and membership. The Dunedin Consumer Association Inc (1960) is the sole survivor of an earlier attempt of the now defunct Consumer Council to create a three tier consumer organization in New Zealand. It is now a largely independent, incorporated society at the local level that still supports the Consumers Institute. This support may be waning since Margaret Charters reported that the DCA is about to disappear, according to the Head of MCA (conversation early 1997).

Current Consumer Issues

Sue McGregor outlined the major consumer issues being addressed by governments and consumer groups in all three Commonwealth countries, using United Nation's and Consumer International's eight consumer rights as an organizational tool. The right to basic needs is met in all countries so it is not an issue; the other seven issue are presented for dicussion. General comments will be shared with an invitation to contact Sue for the overheads used in the presentation.

By far, the most prevalent consumer right that was being addressed was consumer choice, competition and fair transactions. This should not be surprising given the recent shift to merging consumer affairs departments into commerce, business or industry. Most especially, parties in these consumer movements were dealing with mergers, voluntary codes in banking, insurance and EFTS/POS, with bio-technology and telecommunications, and trade barriers. Financial services (credit and reform of entire industries) were common across the board. Canada was dealing with negative option marketing and bio-technology but the other countries focused on lay bys (aways), rentals and direct distance selling practices.

The second most prevalent issue was information with a focus on the information highway, the Internet, telemarketing, and product standards. New Zealand focused on consumer information in indigenous languages and on resources for youth, adults and traders. Australia focused on privacy, country of origin labelling and children's advertising.

The third largest issue was safety for products (not services) with common issues including standards and children's night clothes. Canada was focusing on bio-technology and Australia was tracking the issue of sunglasses (skin cancer threat).

All three countries were paying attention to environmental issues including recycling claims and energy conservation. Canada did not explicitly mention consumer education but Industry Canada has funded several key initiatives recently (Consumer Information Research Network, Canadian Consumer Information and Education Forum, and Project Real World, a consumer economics curriculum). Australia provides ongoing advice to the minister on consumer education and has recently mandated consumer education in all primary schools. New Zealand developed a consumer education package and a glossary of consumer terms for the Maori peoples (and six other Pacific languages).

Canada developed a position paper on how to make consumer groups more self sufficient, a topic which truly reflects the competition theme of Industry Canada. Australia has developed a paper on the social responsibility of the banks, a topic related to the consumer's voice in the marketplace. Finally, a striking finding was the visible focus on consumer redress and preventing the problem before it starts in New Zealand and Australia with no such thing happening in Canada. Australia provides ongoing advice to the Minister on dispute resolution and administers a complaint resolution scheme. New Zealand also has a complaint resolution scheme and is reviewing its existing dispute tribunal.

One final comment: governments and consumer organizations both seem to be addressing similar dimensions of the consumer rights, save for information and choice, with consumer groups favouring human rights, women, elderly, indigenous consumers, privacy, and literacy instead of a competitive, efficient, effective marketplace. Their concern for the consumer interest in the midst of the current policy context seems justified.

Directions in the Consumer's Interest: Issues of Accountability in Curriculum Revision

The curriculum revision process used in the Department of Consumer and Textile Sciences at The Ohio State University is presented. The revision process was grounded in an external review by practicing consumer affairs and financial management professionals. The findings of these external reviews, along with the faculty response, are discussed. Much of the process and many of the outcomes may be unique to the environment surrounding Ohio State, however, the general model for the process may be a good starting point for consumer science programs considering curriculum evaluation.

Lori Embrey, Ohio State University[1]
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Nationwide, consumer science programs are considering, or are currently undergoing, curriculum restructuring to meet both internal and external demands. The internal demands are those of the students. Consumer science programs need to respond to student needs by ensuring that the skills they learn in the programs are marketable . The external demand comes from employing industries. Employers must be satisfied with the product of consumer science programs - the student. The internal and external demands are met simultaneously if the students are empowered with marketable skills. An honest assessment of whether consumer science programs are meeting these demands can only be obtained by asking the key players, namely students and, perhaps most importantly, their potential employers.

The following is a report on a three year evaluation of the internal and external accountability issues facing Consumer Science programs at The Ohio State University. Two possible directions for the Consumer Science curriculum, consumer affairs and family financial management, are presented. Each area was explored by a committee of industry and academic leaders resulting in a list of specific recommendations for each program. These recommendations are based on a list of competencies identified by the committee as being critical to the success of a student working in either option. Throughout the process, a value added approach was used where value was identified as the usefulness of the skills learned in each program. This process is described in detail below, followed by the application of this process to consumer affairs and family financial management programs. A student response and initial success stories are also described.

Curriculum Revision Process

During the Spring of 1993, the faculty of the Department of Family Resource Management agreed that their Consumer Affairs and Family Financial Management Options needed to be studied. This led to the following sequence of events:

- AUTUMN 1993: Department approves the recommendation to review the Consumer Affairs and Family Financial Management undergraduate options.
- WINTER-SPRING 1994: External Review Committees evaluate options. Final reports submitted May 1994.
- AUTUMN 1994: Departments of Clothing and Textiles, and Family Resource Management merge to form the Department of Consumer and Textile Sciences.
- WINTER-SPRING 1995: Faculty Committees study and respond to External Review Committee Report. Submit reports to the department in May 1995
- AUTUMN 1995: Writing Teams prepare syllabi for new and revised courses.
- WINTER-SPRING 1996: Revised programs submitted for college and university approval. Approvals received Spring 1996.
- AUTUMN 1996: Revised options

implemented.

External Review Committees

The External Review Committees consisted of two faculty members from the department (one serving as Committee chair) and four members from the community who were interested in the program or in hiring graduates. Each committee received a similar charge:

- Definition of Terms and Concepts
  What is consumer affairs? How does it differ from customer relations and customer services? Are these differences important?
  OR
  What is family Financial Management? Does it differ from financial planning? If so, how?
- Careers
  1. What are reasonable and appropriate careers and positions to which qualified graduates can aspire?
  2. What are current prospects for employment in the careers and positions identified?
  3. What are emerging career and position opportunities?
- Competencies
  What competencies are needed to be successful in the various careers and positions identified?
- Option Evaluation
  1. Which of the identified competencies can be acquired through a college education?
  2. Which competencies are being addressed in the current option?
  3. Which competencies not currently addressed should be addressed in the option?
  4. How can these competencies be provided through option requirements?
  5. Which courses currently required in the option are tangential to related careers?
- Recommended Changes
  What specific changes and modifications are recommended for the option?

The External Review Committees submitted their final reports to the Department in May, 1994.

Faculty Committees

Faculty committees were then established to respond to and elaborate upon the External Committee report. The Faculty Committees consisted of three faculty members with one serving as chair. The Faculty Committee was given the following charge:

- Consider and respond to each point raised in the Option Evaluation Committee Report. Identify competencies and factors that should be addressed in the option program of study.
- Identify additional competencies and factors that should be considered in the option program of study.
- Prioritize the complete set of competencies and factors. Determine the extent to which each is addressed in the current program of study.
- Identify how to address significant, omitted competencies and factors through course revisions, new courses, additional course requirements, etc.
- Develop specific changes to the option program of requirements that are sensitive to needs of other options but not completely constrained by their needs either.
- Submit written recommendations to the department.

The Faculty Committees submitted their reports in May 1995. These reports consisted of revised programs of study for the respective options, brief outlines of new/revised courses, and suggestions for implementing the new options. The Department was asked to accept the spirit of the proposed changes before undertaking the next step.

Writing Teams

The third step of the process was to create writing teams for each proposed new course. These teams consisted of two individuals with one serving as convener. For courses being revised, the faculty member responsible for the course prepared the revision. The Department approved all course proposals late 1995.

College and University Approval Process

After the Department approved all new and revised course proposals, the associate department chair coordinated seeking college and university approval of the option revision, including new and revised courses. All materials for each option went forward as a package. University-level approval was received in Spring 1996 with the revised options implemented Autumn 1996. To facilitate the transition to the revised options, the Department decided to immediately drop courses not in the new option and immediately offer all new courses. This required a willingness to allow students in the old option to freely substitute new courses for old courses.

Consumer Affairs Highlights

The first and critical stage in the accountability-based process was the External Committee review. The External Committee was composed of professionals working in patient relations (hospital), customer relations (insurance co.), public utilities regulation and two department faculty. Consumer affairs was defined by the committee as the study of the communication loop from seller to consumer and back to seller. They further added that a consumer is anyone who purchases or could purchase a product or service. They agreed that consumer affairs has a public policy orientation, suggests consumer advocacy, and includes broad group relationships.

The external committee also identified real-world position possibilities for the consumer affairs career ladder. Possible jobs included: complaint handling, point of sale, consumer research, public relations, community/foundation relations, quality management coordinator, small business administrative associate, call-center manager, customer-service liaison, facilitator/advocate, demand-side management implementor, consumer decision-making educator, computer coordinated consumer services, consumer consultant, home health care, employee relations, trainer, alternative dispute resolution coordinator, and ethics counsel.

The competencies needed for these positions include: analytical skills, computer skills, interpersonal skills, organizational sensitivity, advocacy, communication, initiative, job knowledge, and technical knowledge. The competencies which could be attained through college curriculum included: analytical skills, data collection and analysis, the problem solving process, and a variety of computer applications. Computer use in courses directly related to consumer affairs was encouraged. Critical competencies could also be developed through interpersonal sensitivity to diversity, as well as one to one communication, improved writing skills and oral presentation skills.

The second key to ensure accountability to students, industry and educators was the appointment of the three-person Faculty Committee to study the External Committee report and make recommendations to the Department. This Faculty Committee focused on the skills that they assessed to be important and attainable through the college experience. They included: analytical, computer, interpersonal, negotiation, communication, and technical knowledge as defined by a sequence of courses.

The Faculty Committee recommended five core courses to deal with consumer issues, namely: consumer problems, private solutions to consumer problems, public solutions to consumer problems, consumer decision-making, and quantitative methods in consumer affairs. In addition, the Committee recommended that the core be combined with courses in family financial management, diversity, resource management issues for women, economic problems of black America, economics of the ghetto, accounting, legal environment of business, marketing, consumer behavior, communications, and statistics.

The Faculty Committee identified four consumer affairs specializations: business communication, financial services, consumer products, and not-for-profit organizations.

The third stage of the process was to form writing teams to develop the completely new consumer affairs courses. Each writing team was composed of two faculty to get all Family Resource Management faculty involved in the process and to incorporate more points of view. We then asked for feedback from all Consumer and Textile Sciences faculty.

Family Financial Management Highlights

The overall process for evaluation and revision of the Family Financial Management Option was the same as that carried out for the Consumer Affairs Option. There were six members of the Family Financial Management External Committee. The committee members held positions as a pension marketing manager, the principal in an asset management firm, the vice president of a trust company, a director of human resources and two Department faculty. The external committee defined family financial management

as an education process that focuses on informed consumer decision-making when choosing financial products and services. Family financial management was conceived as being broader than financial planning and advising. It should involve counseling, understanding the underpinnings of economics and finance, and keeping abreast of the evolving financial services industry.

The Family Financial Management External Committee identified significant opportunity in careers ranging from sales of financial products to technical support in large financial service firms. Some of the careers were: investment advisor, consumer financial product analyst, retirement program designer, benefits specialist, external financial product and service provider, financial planning paraprofessional, financial services sales, financial product and service technician, asset utilization specialist, financial services educator, marketing coordinator, development officer, financial management consultant and financial planner.

The Family Financial Management External Committee determined that interpersonal communication, project management, organizational, computer, and reasoning and learning competencies were the most important competencies leading to success in the industry. Knowledge of a foreign language, office technology, and most surprisingly, technical product and industry details were considered as only "nice-to-know" competencies by the Committee. The Committee considered these nice-to-know competencies to be best acquired in a professional setting.

The Family Financial Management Faculty Committee responded to the external review in three fundamental ways. First, the name of the option was changed from Financial Management to Family Financial Management. Second, courses were added and revised in an effort to provide hands-on experiences in tax and estate planning as well as the comprehensive financial planning process. Third, specializations in investments, economics, risk management, and real estate finance were identified using courses offered in the University system.

Most employers are excited about the program and are anxious to work with student interns. Since implementation, nrollments have increased each quarter for all classes in the core of the option. Enthusiasm has flowed into the graduate program and department research productivity in family financial decision-making has rapidly increased.

Student Response

The overall reaction of students has been positive. Consumer Affairs majors have been the most confused in the transition since their program has undergone the more extensive revision. Students in both options feel more specialized and therefore more marketable. Consumer Affairs students have identified the emphasis on consumer decision-making and a more focused approach to public and private solutions to consumer problems as the most promising revisions. Serious Family Financial Management students have welcomed the increased rigor of the program and the use of case studies as the dominant teaching and learning tool in upper level instruction.

Increased emphasis on communication and quantitative methods courses have served as a more direct means of quality control for internship experiences. Some students have suggested including courses in organizational behavior and computer and information sciences in order to add to marketable skills. Honing writing skills by requiring more research papers is an important part of the new curriculum.

Summary

The purpose of this panel presentation was to share the curriculum revision process undertaken by participants in the Consumer Science programs in the Department of Consumer and Textile Sciences at The Ohio State University. We have emphasized the revision process over the actual findings and revisions. These findings and some of the process may be unique to the urban environment where Ohio State is located and may not be transferable to other consumer science programs. Overall, it appears as though the process worked. Faculty members listened to industry and there are early indications that the consumers/students will benefit. Most consumer science programs are facing, or soon will be facing, the daunting task of complete curriculum evaluation and revision. The process described and exemplified above is offered as a starting point and some of the early indications of success may provide encouragement. There is consensus that this process was worth the valuable time of both the External and Faculty Committees. Students, faculty and industry representatives agree that the programs are improved and agreement among these groups on anything is remarkable in itself.

Endnotes

1. Graduate Student, Department of Consumer and Textile Sciences.
2. Assistant Professor, Department of Consumer and Textile Sciences.
3. Professor, Department of Consumer and Textile Sciences.
4. Associate Professor, Department of Consumer and Textile Sciences.

Influencing Public Policy: Child Support Policy in Transition

This panel discussion brought together present and past members of the Utah's Child Support Advisory Committee to discuss the history of the process of developing child support guidelines in Utah and current issues affecting many states. Participants included: Barbara Rowe, Purdue University (member of the committee that developed the original guidelines when she was on USU faculty); Rex Olson, attorney and committee chair; Garth Mangum, economics professor and vice-chair; and Jean Lown, convener and moderator.

Jean M. Lown, Utah State University[1]

Barbara Rowe provided an over view of child support in an era of welfare reform. For the first 190 or so years of our nation's existence marriage and domestic law were the exclusive domain of state legislatures and courts. The Social Security Amendments of 1974 created Title IV-D agencies in states. The Child Support Enforcement Amendments of 1984 require states to establish "descriptive and numeric guidelines" for determining the amount of child support in divorce and paternity cases by October 1987. The guidelines could be established by state legislatures, by judicial action, or by administrative agency (Title IV-D). Congress did not stipulate any particular guideline model states had to follow (most common- Guidelines were advisory, not mandatory. The Family Support Act of 1988 made guidelines rebuttable presumption (that is, the guideline was to be used unless the court made a finding that it was inappropriate in a particular case).

The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (a.k.a. "welfare reform") addressed the following issues. Enforcement issues Improved absent parent locator functions by establishing a federal case registry of child support orders, a national directory of new hires, and state disbursement units for collection of child support payments.

The Uniform Interstate Family Support Act (UIFSA) improves full faith and credit laws, requires states to use the same forms, Institutes expedited processes (don't have to stop and wait for judge to sign order), requires licenses and passport revocation (professional, driver's licenses, passports), requires delinquent obligors to work, denies food stamps to delinquent noncustodial parents, allows states to enforce the support orders of delinquent obligors who are minors against their parents, authorizes study of access and visitation issues, makes federal employers subject to same laws as other employers, requires the military to share information with parent locator services, includes new policies for international cooperation, and initiates cooperative agreements with families living in "Indian country."

The new legislation also expedites paternity establishment by permitting: voluntary establishment in hospitals, permits paternity to be established until child is 18, requires genetic tests upon request of either party, enters default orders of paternity, and creates a presumption of paternity where appropriate. With regard to establishment and modification of child support the new law allows: medical insurance support can be ordered whenever obligor can obtain health insurance "at reasonable cost." States must review all IV-D orders upon request to conform with state guidelines, adjust for inflation, use automated methods (many counties still use hand-written entries in paper ledgers), and requires states to review AFDC orders every 3 years. Arrears are to be distributed to families who move off welfare before state pays itself and states may disregard the $50 pass-through to AFDC families when support is collected.

"Good faith" cooperation of welfare recipients is required in naming the father, including providing his Social Security number, employer's name and address. "Good faith" is determined by the child support enforcement agency not by the welfare agency (see Turetsky, "Pointing the Finger at Moms"). With regard to agency funding and administration the new law establishes new incentive system for states in collecting child support, establishes notice provisions to obligors but no grievance procedure, requires state audits, and provides funding for training and technical assistance at the state level.

According to Garth Mangum, Utah's Child

Support Advisory Committee is advisory to the legislature with members appointed by the governor; the committee has no power or authority. Child support in Utah follows the income shares model. Over the years the committee devoted a huge amount of time to intensively study guidelines issues. Two years ago the committee revised the guidelines. Funds are needed to study the impact of this revision.

In recent years members of the legislature have been deluged with complaints from noncustodial parents regrading child support and visitation. Virtually every issue raised has been studied by the committee. However, due to lack of attention by legislators and membership turnover, many legislators are unaware that the complaints have been addressed. Essentially the legislature ignores the committee. There is no legislative staff assigned to the committee and legislators invited to meet with the committee do not attend. Collection issues are not the committee's responsibility; collection is carried out by the Office of Recovery Services.

Although Utah is one of the most urbanized states, with 80% of its population living in the densely populated Wasatch Front, the powerful "Cowboy Caucus" in the legislature thinks that Utah is primarily a rural state with a cost of living well below that of other states so they object to using national or regional data on the cost of raising children yet the legislature will not appropriate sufficient funds for a survey of costs.

Attorney Rex Olsen concurred with Dr. Mangum that there is a pervasive misperception, not limited to legislators, regarding the cost of living in Utah. Collecting state specific data would be very expensive and unlikely to affect the perceptions of payors that their child support obligation is too high.

Olsen emphasized the distinction between legal and physical custody. In Utah, when the child spends more than 25% of overnights with the parent who has the least amount of time with the child, it constitutes joint physical custody. A big issue for noncustodial parents is accountability for expenditure of the child support. The court may require accountability but the payor must be current on payment of child support before such a request will be considered.

The worksheets for determining the amount of child support are relatively simple and easy to apply. However, most of the disputes revolve around determining the amount of income to include. Thus, some of the legislators are pushing for a change to a percentage of income model under the misperception that income is easy to define. Using W-2 statement could lead to privacy issues.

Modification of child support orders is available when there is a substantial material change in circumstances, however, it is expensive and time consuming since modification requires returning to court. Triggers for modification include a change in income and/or a change in needs or circumstances. Thus, it is expensive for the judicial system as well. Often there is a misunderstanding among the parties about how to get a court order. Often legislators and affected parties want to tinker with the system to change one aspect, not realizing the potential impacts of the change.

Jean Lown added a few issues facing the committee in the coming months. A main concern is the need to monitor the mandated periodic reviews and to determine trends and how often initial child support orders are changed. What to do when one or both parents remarries, the so-called "second family" issue is a potent issue that has not been adequately addressed by the committee. There is a need for exchange of information and research among states to assist chid support advisory committees in their work.

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Endnote

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Coping During Periods of Economic Uncertainty

The purpose of this panel was to present examples of research being conducted by ACCI members on how individuals and families cope during periods of economic uncertainty. Topics included various possible coping strategies that might be used, the role of family business as a coping mechanism, coping processes as related to health care changes in later life, and adapting to the role of caretaker for elderly family members. Implications for practitioners and policy makers were presented.

Thesia I. Garner, Bureau of Labor Statistics[1]
Linda L. Stinson, Bureau of Labor Statistics[2]
Ramona K.Z. Heck, Cornell University[3]
Marlene S. Stum, University of Minnesota[4]
Janet E. Fast, University of Alberta[5]
Synthesizer: Jane Schuchardt, U.D. Department of Agriculture[6]

Our society, as others, is continuously being faced with challenges associated with economic uncertainty. This economic uncertainty can be related to downsizing by companies, changes in the role of government, increased life spans, and changes in family composition. Concerns arise over income security resulting in economic strain or economic insecurity. Changes resulting from economic uncertainty motivate individuals and households to initiate various adjustment or coping strategies as they strive to meet their basic needs. In this session individuals, who are conducting research related to coping behaviors, identified strategies that individuals and households employ as they live and function in a society increasingly characterized by economic uncertainty. Underlying each of the strategies is the assumption that members within the household are engaging in behaviors which will increase the utility or satisfaction of the household as a whole.

Coping Strategies for "Making Ends Meet" (Garner and Stinson)

Garner reported on research being conducted at the U.S. Bureau of Labor Statistics (BLS), in conjunction with the Bureau of the Census, on subjective or cognitive assessments of economic well-being. The study was designed primarily to help us understand what individuals are thinking when they are asked questions related to income adequacy; information about coping strategies was collected as part of this process.

For the study, qualitative data were collected during the late spring and summer of 1996 using focus groups and one-on-one interviews. Individuals were selected for the study based on their income level (low, medium, and high) and household type (single with no children, two or more adults with at least one child under age 18 years, and more than two adults with no children in the household). These data were collected from individuals living in five different sites across the country. A three by three (income by household type) design matrix was used; 77 persons participated in the focus groups and 47 participated in the interviews.

Respondents were asked questions and were provided with tasks to discuss various concepts. For example, respondents were asked: "What amount of income would you need to 'make ends meet' and how did you decide upon this amount?" In addition they were asked what their lives would look like if they could NOT make ends meet. Their responses included descriptions of coping strategies and emotional reactions. Life in which you were "not making ends meet" was outlined as a series of behaviors undertaken to curb spending and increase earnings, along with a number of negative emotions running in tandem. Taken all together, respondent reports revealed that "not being able to make ends met" produces discomfort on many levels-physical and cognitive.

The respondents demonstrated a fundamental human urge to take charge of their own existence. Repeatedly they described ways they might adapt to new economic constraints, curtail their spending, and attempt to regain fiscal ascendancy. Their economizing tactics were generally directed at adjustments to price, quantity, quality, and lifestyle. Often the coping strategies reported did not differ for the three income groups. In several instances, respondents' possible strategies seemed to be more short- rather than long-term.

With regard to emotional responses, respondents alluded to their need for a predictable economic situation when they said that income insufficiencies would cause them worry and stress. Respondents expressed cognitive discomfort of "not being able to make ends meet," and noted that such discomfort might manifest itself through feelings of helplessness, pressure, tension, depression, and frustration. The possibility of family fighting and marital strain resulting from straitened economic situations was also reported.

Research such as this can provide insight into how individuals, families, and households cope each day. With this added knowledge, improved data collection instruments can be developed for monitoring the economic situation of these groups. (For details concerning the study upon which this summary is based, see Stinson, 1997).

Role of Family Business as a Coping Mechanism: Compilation of Research Findings from Three Major Studies (Heck)

The intent of Heck's comments were to focus attention on self-employment and business ownership, such as a family business as well as homeworking, as coping alternatives to centralized wage employment. Heck noted that due to their inherent nature, family businesses may provide family members working in them flexibility relative to family demands and, in addition, enhance job opportunities and security, especially for women. She reported that more than 90 percent of the businesses in the U.S. are family owned and controlled, and there are at least 2 million family firms with revenues greater than $1 million. In addition to their economic value, Heck reported that family firms provide societal value in that they are preferred by consumers, provide greater opportunities for women, have respect for tradition, and take care of their employees. Also, the family business literature strongly suggests that families are vital and supportive environments for entrepreneurial behavior.

The family business field of study is emerging and would be greatly enhanced by increasing the amount and quality of applied research. Heck noted that such applied research is impaired by the lack of a well-established national statistical series and a high-quality and comprehensive data source. Such data are not available in the U.S. sufficient to study both the business and the family properly.

In an effort to fill this void, Heck and her colleagues have been involved in a major study, "Family Businesses: Interactions in Work and Family Spheres" (Cooperative Regional Project, NE-167R). The purpose of this project is to develop a clear understanding of the structure, communication patterns, financial circumstances including tax contributions, decision-making processes, and management strategies in family businesses as they contribute to individual and group well-being in both family and business settings.

In another study, "Employment Diversification and Entrepreneurial Opportunities within Rural Areas," Heck and her colleagues studied entries and exits. Over the five-year period under study, overall patterns resulted. For example, they found that the number of individuals going into and exiting from self-employment was high, and the duration or length of time spent in self-employment was considerable, with urban areas and women having shorter durations of self-employment. Heck also reported that results from this study suggest that self-employment in general does not yield returns that are comparable to wage and salary employment.

In her discussion of home-based businesses, Heck talked about Cooperative Regional Research Project, NE-167 (Heck, Owen, and Rowe, 1995). In 1989, data were collected from households in nine states in which at least one adult was performing paid work in or from the home. Heck used results from this study to discuss: (1) the macroeconomic contribution of home-based businesses; (2) tax contributions made by home-based businesses; (3) the contribution of home-based business income to family financial circumstances; (4) the use of home office space by home-based business owners; (5) the employee or independent contractor status; and (6) the impact of local zoning ordinances.

Heck concluded by reviewing the employment alternatives which individuals and families use as coping mechanisms to deal with economic uncertainty. Self-employment and family business (including homeworking businesses) were cited as viable, supportive, and creative options.

Health Care Changes in Later Life: Coping Processes (Stum)

Stum reviewed work that she has been engaged in which focuses on how individuals cope

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with changes in health later in life and how families cope with the economic uncertainty of such a stressor. She focused on micro-level decision making and the impact on the family system within a larger systems context. In the process, she reviewed key concepts and relevant theories, beyond the traditional family resource management and consumer behavior models, to explore relationships across disciplines.

Stum's primary focus was on the context of financing long term care and how this financing affects families. Such a focus is mostly lacking in the literature. In her presentation, Stum addressed the following questions: (1) how prevalent are conscious decisions regarding financing long term care among families of elders at risk of needing long term care; (2) what types of family and government resources are being utilized to plan for or protect against the risks of long term care; (3) what decision making processes, roles, and rules are used in regard to financing long term care; and (4) what attitudes are held regarding the responsibility for long term care. She noted that long term care reflects a continuum rather than one point in time and that long term care includes community based as well as nursing home care, perceptions of outsiders such as professionals, and the role of context.

Stum referred to family coping adaptation and adjustment as a multi-faceted process in response to competing demands: (1) awareness; (2) defining the situation; (3) searching for and implementing solutions; and (4) maintaining family systems. These are influenced by the interaction of resources to meet demands, perceptions of the situation and resources, and behaviors.

Given this framework, Stum reported on recent research she has conducted in the state of Minnesota. Her sample was composed of 45 families with at least one elder at risk of needing long term care, and 65 professionals involved in estate planning and asset management related to long term care. Stum reported that there are inconsistencies in 'theory' and 'reality' with regard to: (1) a day-to-day crisis focus versus long term planning; (2) the evaluation of costs and rewards beyond the economic; and (3) complexity in the social, economic, legal and political decisions involved in this process. She focuses on how family and public resources are being allocated, decision making, and how distributive justice concepts can be used to evaluate the decision rules for fair resource distribution.

Based on this research, Stum developed Extension education materials which focus on resource allocation and outcomes and ways to improve family resilience and ability to cope. (For further information, see Stum and Brouwer, 1996).

Adapting to the Role of Caretaker for Elderly Family Members (Fast)

Fast discussed the consequences or challenges faced by individuals when they take on elder care responsibilities, whether by choice or by necessity resulting from government policy decisions. Her comments were based on her experience with approaches being taken in Canada. A goal of Alberta Health, which reflects a stated philosophy behind new policy directions many Canadian governments are taking, is to "promote greater community and personal responsibility for health, encourage independence, and enable [individuals] with health limitations and disabilities to stay in their own homes and communities" (Alberta Health, 1993, p. 3). The philosophy underlying this shift in emphasis is that community care is believed to be 'better' for both seniors and their families. However, Fast believes there is a subtext to the philosophy that is actually the stronger driver: community care also is believed to be cheaper. It is believed to be cheaper because transferring responsibility for elder care to the community means transferring it to informal caregivers and informal care is assumed to be free. She thinks this is a faulty assumption. Taking on caregiving responsibilities is a costly proposition so that shifting emphasis from formal to community care does not actually reduce overall costs, it merely shifts the distribution of costs.

Fast identified four distinct types of adaptations family members make when they take on elder care responsibilities: (1) adaptations to the way they spend their time; (2) adaptations to their paid work; (3) adaptations to living arrangements; and (4) adaptations to their relationship with the elders they are care for. Using data from Statistics Canada's 1992 General Social Survey (the last national time use survey), she found that about 65 percent of all respondents reported having helped someone with one of several specified tasks within the last month. Combining elder care and paid work responsibilities is an increasingly common occurrence. It has been estimated that as many as 50 percent of informal elder care providers are employed. Caregivers report having to quit paid work; decrease their hours of paid work; turn down overtime hours, promotions, and training opportunities; and take whole or part days off in order to deal with elder care responsibilities. Some caregivers make changes in their living arrangements in order to accommodate their caregiving responsibilities.

This may involve having their family member move in with them, moving in with the elder, or simply moving closer to the elder.

The more 'care for' a family member, the less time and energy one has to 'care about' them, and 'caring about' is what families do best, and what seniors most need from family members. When family members provide the care, the result can be stained relationships between elders receiving care and their caregivers.

Fast concluded by saying informal caregiving is not the 'costless' substitute for formal care that policy makers seem to want to believe it is. Informal caregivers undergo a variety of adaptations when they take on caregiving responsibilities, each of which carries costs. It is imperative that, as policy makers look to informal elder care as an affordable alternative to increasingly expensive, publicly funded formal elder care, they have a complete picture of the full costs associated with informal elder care.

Synthesis (Schuchardt)

Schuchardt summarized the papers and lead the discussion by beginning with a review of the relationship between level of living and standard of living. She noted that one's standard of living is affected by economic stability and sustainability. Underlying this sustainability is the individual's and the family's resiliency. The concept of resiliency, related to coping strategies, requires at lest three characteristics: (1) optimism, (2) resourcefulness (depends on a dynamic support system of individual, family, and community, and appropriate public policy), (3) determination, and (4) skills learned through prevention/earlier intervention programs based on 'wellness' versus 'disease' models, of 'strengths' versus 'needs' of families.

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Endnotes

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Privacy Issues on the World Wide Web

Easily accessible information and data bases are giving rise to concerns about privacy on the Internet. Three panelists, Steve Morrissett of the Utah Attorney General's Office, Peggy Haney of American Express, and Maxine Sweet of Experian (formerly TRW) discussed the issues and implications for consumer education. The remarks of the speakers and discussion are summarized.

Elizabeth M. Dolan, University of New Hampshire[1]
Irene E. Leech, Virginia Tech[2]
Jikyeong Kang, University of Wisconsin-Madison[3]

Steve Morrissett, Utah Attorney General's Office, Criminal Division

Attorneys General are interested in the issue of privacy on the world wide web since there is fertile ground for opportunities which may not be legal. The web system is set up to be anonymous. Utah became involved in the issue of verifying identities on the world wide web. In 1995, the Utah legislature passed a digital signature law. This law created opportunities for banks and other institutions to act as the repositories of digital signatures, allowing individuals and businesses to send and receive confidential information over the web, as well as conduct binding contractual business transactions. Another issue is that Utah criminal law did not cover accessing another's computer, i.e., it was not a crime to break into another computer. When people are "on-line," it is like having an electronic open door: anyone can "walk in" who sees that the door is open. Passwords have not been very effective in keeping people out of computer systems. There are, in fact, people who are in business to try to get information out of other computer systems in order to find out how effective the safeguards are. Utah now has criminalized breaking into another computer.

The question of money laundering was raised. Right now, the Internet is not terribly effective for money laundering activities. But within a year or so, digital cash will be a reality which will change the picture. Persons or businesses will deposit money in a bank, type in pertinent information and send the money to another person/business/bank electronically. This can be done anonymously. Money, then, can be moved around (laundering) and the government is very concerned about this.

Another issue is that of encrypted messages. PGP programs (pretty good privacy) are free and allow the user to encrypt a message so that only the "proper" recipient will be able to decipher it. The U.S. government considers this a security risk and therefore encrypted messages cannot be sent outside the U.S. This prohibition is negatively impacting upon U.S. business in the competitive world marketplace.

"Remailers" take an encrypted message, strip the sender's name off the message and send it on to its destination. The recipient has no way of identifying who sent the message. One message can be sent through several "remailers" so the message cannot be traced. There is a balance between privacy and the government's need to know about illegal activities. The system was not designed to break into encrypted messages. However, the government is worried because it wants to be able to get into messages if need be for national security issues. This dilemma has yet to be resolved.

Peggy Haney, American Express

Privacy on the Internet is closely tied to the level of security provided by a website for transactions. American Express has been involved in privacy protection issues for nearly twenty-five years, and has provided leadership to the industry by advocating the creation of effective privacy policies. In 1974, American Express issued the first "opt-out" form allowing card holders to keep information about them from being used for marketing purposes. In 1978, American Express developed a privacy code of conduct for employees. This was revised in 1991 into a Privacy Principles format and to cover parts of the company which had not existed in 1978. The code was again revised in 1996 to reflect the reorganization of the company and new privacy issues. The company's position is that privacy protection is so much a part of their culture that the discussion is not whether to apply privacy principles, but how.. A pamphlet is available explaining these privacy principles. For a copy, contact the Consumer Affairs Office, American Express Company, 801 Pennsylvania Ave., NW, Washington, D.C. 20004.

American Express has several committees working on privacy. The telemarketing committee was formed to ensure that American Express was in compliance with the new FTC telemarketing rules and that the company was not being intrusive in its marketing practices. There is a committee on internal data security to look at vulnerabilities so that confidential information is secure. The international committee deals with privacy issues which arise through a world wide market. These committees look at how the company uses consumer information and how secure that information is.

As new technologies are developed, new privacy issues arise. For example, SmartCards require a fresh look at how to apply the Principles to a new delivery system. The same is true for websites. Questions include how to provide disclosures and opt-out choices for consumers regarding how information may be used for marketing. Internet security is evolving rapidly.

American Express will not use a customer's e-mail address without the customer's knowledge. If a potential customer "browses" one of American Express's web-sites, American Express will not collect or use any information for solicitation purposes. The brokerage services may operate somewhat differently in this regard as brokers are in need of different types of information from their customers.

Right now, SSL security systems for Internet sites scramble information. This allows confidential information, such as credit card numbers, to be given over the Internet with the assurance that the information is reasonably secure. The retailer only gets part of the card number. The credit company receives the full number and retailer transaction information. A newer system called SET (secure electronic transactions) is becoming available. The SET system uses encryptions of confidential information. Consumers should look for either SSL or SET on their browsers before sending confidential information, such as credit card information, to a web-retailer.

The world wide web is an open system and is presenting a huge challenge to companies in maintaining their customers' privacy. Right now, the best approach for consumers is to web-shop with retailers that are known to be reputable. American Express has helped produce a brochure entitled "Cyber Shopping" about protecting yourself when buying on-line. Copies can be obtained through the Consumer Information Center (CIC) by sending 50¢ per copy to: CIC, Department 389C, Pueblo, CO 81009. CIC also has a website: http://www.pueblo.gsa.gov. The American Express web site address is: http://www.americanexpress.com.

Maxine Sweet, Experian (formerly TRW)

Experian has developed fair information values also so the company and its customers use data responsibly to ensure privacy. The issues are not new, but have been re-cast in light of the world wide web, and have become more broad based. Experian's Information Values include partnership, fairness, balance, security and communication.

A few years ago, only 3% of credit card users indicated that they would be comfortable using their credit cards on the Internet; today, many more people are turning to this retail experience. Because of the safeguards in place on browsers, credit card information may be more secure on the Internet than when used in the "regular" manner when clerks and wait persons take our cards out of our sight.

Currently, there are some companies which allow consumers to request a report on the Internet but the person will not receive the report that way - it will be mailed. Consumers want to get their own confidential information over the Internet so identity authentification is important. Thirty percent of questions to Experian are "why can't I get my credit report on the Internet?" The company is trying to come up with a reasonable policy.

There are two challenges to security of confidential information on the Internet. The first is transferring of data. Data are relatively easy to secure with data encryption programs and SSL (secure socket layer). The second challenge involves authenticating identities on the Internet. Are you who you say you are? One resolution may be to first require full identification, two credit card numbers, a driver's license number (which is not currently required), and a former address (how many fraud perpetrators would know where a victim used to live?). A report transmitted over the Internet would not include complete account numbers; this would ensure that the information could not be used. One stumbling block is the inability to verify when a report must be give for free. At this point, Experian is considering transmitting only paid credit reports in this manner.

Experian has a fraud unit with a toll-free number. They will assist anyone who has had a problem with a credit identity being used fraudulently. The unit will even share information about fraud rings with other credit reporting agencies. Consumers need to understand what information a creditor needs to have to prove fraud. Consumers need to ask "what do you (creditor) need to verify that the charge is not mine, so that you can report it correctly to the credit bureau."

Currently, it is estimated that up to 40% of Experian's credit information disputes come from "credit clinics." Credit clinic operators tell their customers to dispute all negative information found on a credit report ("I'm not late" and "That's not mine"). Over-use of the procedure makes it difficult for credit bureaus and creditors to effectively handle legitimate problems.

Experian believes that consumers are interested in opportunities and choices on the Internet, a competitive marketplace, and fairness. Information should not be used to the consumer's disadvantage. Consumers do not want to be disadvantaged, embarrassed or be subject to increased anxiety when using the world wide web.

The Experian website address is http://www.experian.com. Consumer information is available online through the "Consumer Credit Pavilion," "Revolving Showcase" or "Ask Max."

Discussion

People need to know that some browsers have security programs while others do not. More information needs to be available about SSL and SET. On NetScape, if the tiny key in the bottom left corner is broken, then there is no security; if unbroken, then secure. But how many people know this?

The Federal Fair Credit Reporting Act was revised last year (became effective 10-1-96). Credit bureaus now must provide a free copy of a credit report not only to the person who has been turned down for credit within 60 days (up from 30 days), but also to the unemployed, those receiving welfare, and those who have been victims of a credit fraud.

One person asked what was to stop someone from setting up a web page short term, collecting as much credit information as possible through bogus sales and then disappearing. Steve Morrissett suggested that this also be done "offshore." The best approach to buying on line is to stick with reputable retailers. Common sense information needs to be disseminated about using the web for retail purposes. There are reasonably secure ways of sending confidential information and this needs to be more widely known.

If information is passing through multiple servers, even companies that are reputable could be a source of problems if credit card information is put on Internet. If information is encrypted, then information is probably secure. The merchant will only get part of the credit card information. The credit company receives the full card and retail information.

A member of the audience asked if those who create viruses are being prosecuted. According to Steve Morrissett, no, because these people are hard to track down.

The final question asked for an example of real fraud on the world wide web. The example given was Internet gambling. A person sends some dollar amount to another country (the Bahamas, for example), which enables them to gamble on-line with that money. Usually what happens is that the money just disappears without the person ever getting to gamble with it! The National Fraud Information Center may have a number of examples of Internet fraud on their web site.

Finally, the Better Business Bureau has been working on developing a "seal of approval" for web sites, similar to the Good Housekeeping Seal of Approval. It would simply verify that the site is what it says it is, i.e., the seal would be an endorsement of the site as a good web-citizen. Like its predecessor, there would be no claims regarding the quality of the products or services.

Endnotes

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3. Assistant Professor, Department of Consumer Sciences.

Consumer Issues Related to Life Insurance and Genetic Testing: Preliminary Findings for the BRCA1 Gene Mutation

Questions are being raised about the information generated by the growing number of genetic tests that are available. Within the life insurance industry, insurers fear consumers may use genetic information to obtain high levels of insurance at rates that are below actuarially fair values. We present preliminary findings from a study that examines how asymmetric information regarding genetic test status affects life insurance purchases and public opinion about the appropriate use of genetic information in this market.

Ken R. Smith, University of Utah[1]
Cathleen D. Zick, University of Utah[1]
Robert N. Mayer, University of Utah[1]
Jeffery R. Botkin, University of Utah[2]

Introduction

As the number of genetic tests for inherited diseases grows, a variety of public and private interest groups are raising questions about what individuals and society should do with such genetic information. Within the life and health insurance markets, ethical concerns regarding genetic discrimination are clashing with the underwriting needs of insurance companies.

Consumers fear that if insurers gain access to genetic test results they will use this information to deny coverage and/or raise rates to individuals who carry particularly serious gene mutations --even when the individuals in question are still asymptomatic. Simultaneously, insurers worry that if consumers are allowed to keep genetic test results private, then those who test positive for serious gene mutations will be able to obtain high levels of insurance at prices that are below actuarially fair values. In essence, each group worries that the other will exploit new genetic information to gain an advantage in the insurance market.

Both sides of the insurance and genetic testing debate have made assertions based on little data. In this panel session, we present preliminary survey information from two groups of women to assess (a) insurers' claims regarding adverse selection, and (b) public opinion regarding the appropriate use of genetic information in the life insurance market.

The Data

The first group is comprised of women in a large kindred, known as K2082, whose members are at risk of carrying a specific mutation of the BRCA1 gene that dramatically increases their risk of developing breast and ovarian cancer (N=117). These women have been tested for this mutation and they know their genetic status. Their insurance companies do not have this information unless these women chose to reveal their test results to them. Survey data on insurance coverage and opinions regarding insurance industry practices were collected from these women four months after they learned their genetic test results (see Botkin et al., 1996 for further details on the sample). The second group of women come from the general public and they have not undergone genetic testing (N=169). In this group we over-sample women with a family history of breast/ovarian cancer. Comparisons across these groups allow us to assess the potential behavioral implications of asymmetric information in the life insurance market attributable to this particular gene mutation and how genetic testing influences public opinion.

All women in both groups are Caucasian, between the ages of 18 and 55, and living in Utah or Idaho. The women who test positive for the BRCA1 gene mutation (32%) are told by genetic counselors that they have an 85% lifetime risk of getting breast and/or ovarian cancer. Women who test negative and women who are not tested have a risk for breast/ovarian cancer equal to that in the general population (i.e., about 11%).

Preliminary Survey Results

Women in the combined sample are typically married (80%), have minor children in the home (71%), and are employed (62%). Their average education is 13.85 years, and their average age is 37. Mean annual household income is $46,491. These socio-demographic characteristics vary in only trivial ways across the two groups.

Seventy-six percent of the K2082 women report having one or more life insurance policies four months after learning their genetic test results. The corresponding figure for women in the non-tested sample is 73%. Table 1 presents a crosstabulation of the number of life insurance policies a respondent has stratified by family history and genetic testing status. The associated chi-square statistic of 7.86 (p=.64) indicates that there is no evidence of adverse selection.

Respondents were overwhelmingly not supportive of genetic test results being used in life insurance underwriting. There are moderate differences in opinions across the two groups however. Among the non-tested sample, 22% agree that life insurance companies should be allowed access to genetic test results while only 6% of the tested sample agree with this statement. Almost 8% of the public sample agree that life insurance companies should be allowed to require that the people they insure have genetic tests done while the corresponding figure for the tested group is 2%. Finally, only 8% of the non-tested sample agree that life insurance companies should be allowed to increase their rates for people who test positive for the BRCA1 gene mutation while 3% of the tested sample agree with this statement.

Summary

A strong test of the adverse selection hypothesis awaits the completion of the on-going collection of price and quantity information and the addition of more K2082 sample members who will soon be completing four-month post-test interviews. Nonetheless, the preliminary analyses suggest that adverse selection in the life insurance market is not strongly evident among women who have learned that they carry the BRCA1 gene mutation.

Although the current work is preliminary and its generalizability may be limited, our findings suggest that policymakers should be very cautious as they move forward in the legislative process. They should view with skepticism the insurance industry's contention that denial of access to genetic test results will threaten the industry's economic viability.

The findings also suggest that consumers have serious reservations about the use of genetic test results in the life insurance underwriting process. To date, three states (Arizona, Maryland, and Montana) have passed laws that legitimize the use of genetic test results in the underwriting process if there is an actuarial justification for doing so. Before promulgating more laws in this area, it is imperative that we learn more about (1) why consumers have reservations regarding the use of genetic information, and (2) in society's opinion, what would constitute ethically responsible uses of such tests and the genetic information they reveal.

Acknowledgements

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Endnotes

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Table 1

Number of Life Insurance Policies by Group Membership (row fractions reported)

Group	Number of Policies		
	0	1	≥2
Family History, Tested Positive (N=28)	.21	.50	.29
Family History, Tested Negative (N=52)	.29	.46	.25
No Family History, Tested Positive (N=10)	.20	.70	.10
No Family History, Tested Negative (N=27)	.19	.48	.33
Family History, Not Tested (N=99)	.26	.41	.32
No Family History, Not Tested (N=70)	.31	.34	.34

Household Credit and Debt Portfolios: Variation by Definition

This research effort uses data from the 1992 Survey of Consumer Finances to arrive at three measures of household credit and debt. The first measure quantifies the debt households carry in various debt categories and in total. Second, the amount of unused credit currently available through credit cards and home equity lines of credit is determined for each household. Finally, a variable is operationalized to measure how far into debt a household could go if it also tapped into specific assets as sources of credit.

Carole G. Bozworth, University of Missouri[1]
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Introduction and Purpose

The present level of household debt and the general willingness of consumers to continue obligating future income to cover current consumption has met with a variety of reactions from those interested in this issue. The fact that consumer debt has been growing at twice the rate as the gain in salary and wages distresses family economists because of the potential impact on the financial well-being of families over their lifetime. Economic analysts worry that the heavy debt load carried by many families will eventually contribute to a stalled economy. In direct contrast, the credit industry shares little of this negative reaction to rising household debt. Thomas Layman, chief economist for Visa, U.S.A., views the current level of household debt as reasonable and thus dismisses the concern of those who are less positive about the situation. He contends that as long as borrowers are able to meet their debt obligations, the amount of that debt should not be of concern. He notes that even if the consumer were to experience difficulty in meeting current debt payments, there would be little need for distress because of the amount of untapped credit still available to consumers. In effect, he reflects the attitude of the credit industry that it is reasonable for consumers to borrow more in order to pay for previous borrowing (Bleakley, 1995).

Part of the difficulty in getting a clear picture of the actual debt load of households relates to the terminology which is used in referring to various types of credit/debt. Often statistics quantifying one type of debt are used as if they give a realistic picture of the total debt situation of American households. To compound the problem, researchers and writers on this topic do not make clear distinctions between the terms credit and debt, using the two terms as if they were synonymous. Indeed, the terms credit and debt are related but not interchangeable. Credit is the potential to acquire goods and services now and pay for them in the future. Credit is the potential for debt while debt is the actual financial obligation.

The purpose of this paper is two-fold. The first purpose is to determine the total debt level of American households and how that debt is distributed across the various categories of debt. Using Mr. Layman's comments as a guide, the second purpose of the paper is to determine just how far in debt American households could go if they tapped into the unused credit already available to them. A two-step process was used for this second purpose. First an intermediate variable was operationalized to determine the amount of credit for which the household has already qualified. This "qualified level" variable includes current debt plus other credit for which households have already qualified but not yet used. A final variable was operationalized to determine the potential for debt of households. This "potential level" variable includes the qualified level variable and adds to it those household assets which could be easily accessed as potential sources of credit.

Methodology

Data and Statistics

Data used in this study were from the 1992

Survey of Consumer Finances (SCF) cross-section data set. A total of 3906 households were used in the empirical analysis. Data were weighted and the RII technique was used to obtain statistical estimates.

The scope of this initial study is limited to descriptive statistics and measures of central tendency. Both means and the range of medians will be reported in the results. Since it did not seem logical to report a mean of the five median values across implicates in SCF, the range of medians is provided

Variables

Consumer Debt was operationalized as the dollar value of credit card debt (outstanding balance), household loans for vehicles, education and other loans (including home equity loans) which could be identified with a consumer purpose.

Mortgage Debt included household loans and home equity loans used for principal residence (purchase, home improvement and/or repairs).

Household Debt was the sum of Consumer Debt and Mortgage Debt.

Other Debt was the dollar value of business debt, investment debt and real estate debt other than for the principal residence. Also included was any debt where the loan purpose was not available in SCF.

Total Debt summed Consumer, Mortgage and Other Debt.

Qualified Credit was the dollar value of available credit on credit cards and home equity lines of credit. (Available credit is difference between the credit limit and the outstanding balance.)

Non-Qualified Credit was the dollar value of 90 percent of current home equity plus 50 percent of the funds available in pension accounts, and the cash value of life insurance policies less any current loans against these assets. This variable represents the amount of credit from specific assets that had not yet been tapped.

Potential Credit was the sum of Qualified and Non-Qualified Credit.

Qualified Level was the sum of Total Debt and Qualified Credit. The variable was designated as a level since it contained both credit and debt components.

Potential Level added Potential Credit and Total Debt.

Results

Sixty-two percent of households had some Consumer Debt as operationalized in this study. Mean Consumer Debt for the full sample was $4,706 with a median range of $245-$275. In the subsample of households with some Consumer Debt, the mean was $7,568 with a median range of $4,845-$4,950.

Almost 40 percent of households had Mortgage Debt on their principal residence with a mean of $22,828 and median of zero. In the subsample of households with Mortgage Debt, the mean was $57,278 and median was $59,000 to $60,000.

Seventy-two percent of the respondent households had some Household Debt. Mean Household Debt for the full sample stood at $27,545 with a median of $6,200-$6,320. When the sample was restricted to households with some Household Debt, the mean value increased to $38,467 with a median of $26,255-$27,000.

In the full sample, 16 percent of households had Other Debt with a mean of $8,493 and a median of zero. In the subsample of households with Other Debt, the mean was $52,341 with a median of $50,000-$52,000.

Almost 74 percent of households had some type of debt with a mean Total Debt of $36,038 and a median of $12,180 to $12,665. Taking out the 26 percent without debt, mean Total Debt increased to $48,937 with a median of $36,310 to $37,100.

In the full sample, Qualified Credit had a mean value of $7,183 with a median of $4,075-$4,170. In the subsample of households with some Total Debt, Qualified Credit had a mean of $7,659 and median range of $4,800-$4,830.

The mean value of Non-Qualified Credit for the full sample was $48,303 with the median at $40,400 to $40,500. In the restricted subsample, the mean was $50,432 with a median of $40,500-$41,750.

Potential Credit had a mean value of $55,486 and a median range of $50,725 to $50,925 for the full sample. The restricted sample had a mean of $58,091 and median of $51,500-$52,325.

In most cases households qualified for more credit than they were currently using. The Qualified Level variable captures the amount of untapped credit for which the household has already qualified and adds it to the debt already incurred. Mean Qualified Level was $43,221 and median was $21,925-$22,472. In the total sample, at the mean respondents were using 83 percent of the credit for which they had currently qualified. Focusing on respondents with some debt, at the mean households were using 86.5 percent of Qualified Level. While Qualified Level indicates the total amount of credit for which a household has already qualified, this variable actually understates the assured credit potential of many households. The Potential Level variable also includes assets which could be tapped for further credit without actually liquidating the asset. At the mean, the Potential Level variable was $91,524 with the median at $94,000 to $95,7756. Therefore, the Total Debt of households represented 39 percent of the potential for debt. Limiting the sample to households with some debt, the mean value of Potential Level was $107,029 and median was $109,810-$111,155. Their Total Debt represented 46 percent of Potential Level.

Summary

The debt situation of households varies considerably by the type of debt being quantified. While 62 percent of households had Consumer Debt, only 40 percent had Mortgage Debt and 16 percent carried Other Debt as it was operationalized for this study. While Consumer Debt receives much attention because of its growth over recent decades, it actually had the lowest mean value of the various types of debt. The fact that so much of consumer debt is unsecured and incurred to underwrite current consumption may justify the amount of attention it is given.

The full sample is using 83 percent of the credit for which it is currently qualified. However, they still have over $7,000 of untapped credit available to use for emergency purposes. While the subsample of households with some debt are using a slightly higher proportion (86.5 percent) of their Qualified Level, they also have a higher dollar amount available to them in the form of untapped credit ($7,659).

Of real concern is the dollar value of Potential Level. This variable quantifies how far in debt households could go, given their present level of approved credit and the assets they could tap as further sources of credit. Households could double and almost triple their present level of debt with little effort and with little need for approval from the credit industry. Not only is there concern for the high potential for debt but also for the impact of tapping into assets meant to provide financial security for the household.

In preparation for this research study, it became obvious to the researchers that individuals who write on the subject of credit and debt are somewhat casual in their use of these two terms. This study allowed the researchers to begin development on a conceptual framework which allows for quantification of both credit and debt as separate financial measures and then to bring them together to determine the potential for financial obligation if households took advantage of many of the sources of credit readily available to them.

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Endnotes

1. Assistant Professor, Department of Consumer and Family Economics.
2. Ph.D. Candidate, Department of Consumer and Family Economics.

Consumer Interests Annual *Volume 43, 1997*

Credit and Debt Portfolio by Household Type

This study uses the 1992 Survey of Consumer Finances to construct five basic household types, with a total of seven family type classifications, and uses these structures to examine consumer credit and debt portfolios.

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Household type has been found to be a significant determinant of many types of consumption expenditure, resource planning styles and managerial behavior. However, little is still known regarding credit and debt behavior by different household types. It is the purpose of this study to construct seven household types from the household listing variables in the 1992 SCF and to examine credit and debt portfolio for each type. Findings from this descriptive analysis will provide insight for future research regarding family indebtedness behavior. Substantial differences in credit and debt portfolio among the household types may suggest that the inclusion of household type is warranted, and could provide valuable information, in future analyses regarding family financial behavior using the Survey of Consumer Finances.

Data

Data used in this study were selected from the 1992 Survey of Consumer Finances cross-section data set. The total 3,906 households were used in the empirical analysis. Data were weighted and information from all five implicates in the 1992 SCF were used to obtain statistical estimates.

Variables

Construction of family type

Twelve of the household listing variables available in the SCF which describe the relationship to the respondent were used to construct the family types. No restriction on gender was enforced. Households were classified into five basic types: Nuclear, Single-Parent, Couple-Only, Single Person, and Other. The family type variables were constructed by further separating households into one of seven categories of family composition. Nuclear families consist of the respondent, the spouse (or partner) and all children (own and foster). Single-parent families include the respondent and all children living in the household (own and foster). The couple-only family is comprised of the respondent and spouse (or partner). Single person households were divided into two categories: respondents who were employed and respondents who were not employed. The decision to divide this household type based on employment status was due to the assumption that resource management decisions facing these two groups were likely to be markedly different since a substantial number of the non-employed persons in this classification were voluntarily not employed. "Other" households capture all combinations of living arrangements which do not satisfy the criteria established for the four family types outlined above. These other, or "non-traditional", households were also separated into two classes based on household size: an "other" category which had 4 or more persons and an "other" category with 2 or 3 household members. This larger group formed in an attempt to begin to capture multiple generations ans/or extended family living in the same household.

Credit and Debt Variables

This paper used the same credit and debt variables as defined in the Bozworth & Huston (1997) study preceding this current study. Please refer to this study for specific operationalization of terms.

Results and Discussion

The sample was categorized into the five family types, with 15% nuclear families, 9% single parent families, 14% couple-only households, 26% single person households (12% employed, 14% not working). The remaining 36% of all households did not fall into the classifications listed above. 22% of these other households had 2 or 3 members and 15% had 4 or more members. This "other" family type with

4 or more members had the highest proportion of Hispanic headed household and the second highest proportion of Black headed households. The highest proportion of Black headed households was found in the single parent family type.

Total Debt Composition

Total debt is comprised of three main debt areas: consumer debt, mortgage debt, and other debt. Household debt (that is consumer debt plus mortgage debt) comprises the majority of total debt for all households regardless of family type. Nuclear families have the highest absolute dollar amount of total debt (just over $78,000 on average), while single person non-working households have the lowest level of total debt (just over $6,300).

With regards to consumer debt only, while nuclear families have the highest dollar amount of consumer debt (approximately $7,400 on average), they have the lowest proportion (9%) of consumer debt in their total debt portfolio compared to all other family types. This is primarily due to the fact that mortgage debt comprises a relatively large portion of their total debt (almost 70%). Conversely, while single person non-working households have the lowest absolute level of consumer debt out of total debt ($1,200 on average), they have the highest proportion of consumer debt (19%) across all family types. Again, this is, in part, a function of mortgage debt being relatively low for this particular family type. Couple only households have the highest proportion and level of other debt of all the family types, with the total debt portfolio comprised, on average, of 12% consumer debt, 44% mortgage debt and the remaining 44% in other debt which represents a mean level of approximately $17,400.

Credit Composition

Potential, or total, credit is comprised of two elements: qualified credit and non-qualified credit. There is a similar pattern of credit composition for all households, non-qualified credit represents the overwhelming majority of the potential credit portfolio regardless of family type. Nuclear families and couple only families have the highest absolute amounts of potential credit compared to all other family types.

Single person working households have the highest proportion of qualified credit (21% of potential) while single parent and single person not working households have the lowest proportion of qualified credit at 8% and 9%, respectively.

Debt and Credit Levels

If single parent families were to transform their qualified level into debt they would increase their current debt level by 11%, on average. This is the lowest "gap" (i.e., difference between qualified level and total debt) among the family types. While single person not working households, like single parent households, have a low proportion of their potential credit held in qualified credit when this in translated into levels this gap is proportionally much different. In fact, these single person not working households have the largest proportional gap, and were they to transform their qualified level into debt this would represent an average increase of current debt levels by 58%. If these same households were to tap out their entire potential credit level they could hypothetically increase their current debt load by 640%. For the remaining family types, should they exhaust their potential level, on average, nuclear families could double their existing debt level, single parent families could increase existing total debt by almost 2½ times, couple only households by 231% and single working households by 135%. In terms of the "other" households, those with 4 or more members could increase mean debt levels by an average of 111% and those with 2 or 3 members by 171%. And, these levels do not consider the addition of credit cards or other currently un-accessed types of credit which households may qualify for outside of what was identified in the credit variables in this study.

In conclusion, these potential debt levels become an important area of study, especially given that such a variety of credit avenues are currently being aggressively marketed to consumers. These debt and credit levels only portray one aspect of the story. Household income and assets need to be examined to get a tempered view of debt and credit in relation to the household's ability to pay off debt both now and in the future.

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Endnotes

1. Ph.D. candidate, Department of Consumer and Family Economics
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Credit and Debt Portfolios of the Young and Old

The 1992 Survey of Consumer Finances was used to calculate descriptive statistics of debt levels and credit usage of two age groups: under age 65 and 65 and older. A smaller percentage of older household had debt of any type. Balance of outstanding debt was also lower for this age group, but their average nonzero debt balances were unexpectedly large. Compared to the younger group, the older age group, on average, could access a higher amount of credit.

Deanna L. Sharpe, University of Missouri[1]

Introduction

In 1990, 12.5% of the United States population was aged 65 and older compared to 8.1% in 1950 and 4.1% in 1900. Projections are that by 2030, 1 in 5 individuals in the U.S. will be aged 65 or older (Hobbs, 1996). This significant demographic change has spurred research on such economic issues as income, housing cost, and retirement funding among the aged (Duncan & Smith, 1989; Hurd, 1990; Mankiw & Weil, 1989; Ryscavage, 1992; U.S. Congressional Budget Office, 1993). Still, little is known about debt levels and credit usage among this age group.

This paper uses the 1992 Survey of Consumer Finances to explore the type and level of debt and credit used by those aged 65 and older and to compare results with those under age 65. Age 65 is used to divide the sample because it is a common age of retirement in the U.S.

Background

Debt and credit are usually considered financial tools of the young. However, several factors are currently influencing change in debt levels and credit usage among those aged 65 and older: (1) aggressive solicitation of the elderly by a mature credit card market (Ramresearch, 1997), (2) reduced stigma associated with credit use, (3) greater confidence in ability to repay due to increased longevity, health care advances and inflation adjusted post-retirement income, (4) common use of credit cards in markets used by older individuals (e.g. mail order), and (5) convenience of credit card use versus use of cash or check.

Credit card usage has been the focus of the limited research on credit usage of those aged 65 and older. McGurr (1995) found this group was less likely than those under age 65 to hold credit cards. However, being married, having good health, having higher levels of income and education ,being a home owner and having positive attitudes toward credit were positively associated with having credit cards.

Manning (1996) interviewed elderly persons about their credit use. He concluded that, for some, credit card usage was simply an extension of pre-retirement money management practices. For others, credit cards were a financial safety net of last resort, extending low income. This latter group, Manning speculated, was at greatest risk of credit overextension.

This study extends previous research by considering broad descriptions of debt and credit.

Data and Method

Data

This study used the 1992 Survey of Consumer Finances as described in Bozworth & Huston (1997). All five implicates and appropriate weights were used.

Method

The composition of the debt and credit variables used in this study are detailed in Bozworth & Huston (1997). Although individuals over age 65 would not be likely to borrow against their pension fund assets in the same way that younger individuals might, for ease of comparability, the same definition of nonqualified credit was used for both age groups.

Percentages were calculated for categorical variables. Means were computed for dollar holding of debt and credit for the total sample and for those with a nonzero balance in a given category.

Findings and Discussion

Descriptive statistics are reported in Table 1. As expected, the older group had a lower mean income, less education, smaller household size. Region of residence was similar for both age groups. Relatively fewer minorities and married couples were found among the older age group.

Compared to the younger age group, a smaller percent of the older group held any type of debt. Interestingly, over 70% of the older group had a credit card, nearly the same percentage as the younger group. Only 27%, however, carried a balance, compared to 48% of the younger group.

Table 1
Descriptive Statistics

Variables	Age < 65	Age ≥65
	Means	
Age	41.2	74.1
Income	42587.00	25771.0
Education	13.3	11.3
HH size	2.9	1.7
	Percent	
Region		
Northeast	20.7	18.5
Northcental	24.1	25.3
South	34.3	35.3
West	20.9	20.9
Race		
White	72.8	83.5
Black	13.2	11.0
Hispanic	8.8	3.0
Other	5.2	2.5
Marital Status		
Married	61.4	43.2
Separated/Div.	17.6	8.3
Widowed	3.7	44.3
Never Married	17.3	4.3
Had consumer debt	70.0	34.6
Had mortgage debt	46.8	15.3
Had household debt	80.3	40.7
Had other debt	18.5	8.2
Had total debt	82.1	43.5
Nonzero credit card bal.	48.4	27.1
Had credit card	72.4	70.1

Mean debt and credit levels are reported in Table 2. The younger group owed more in each debt category and had a much larger proportion in mortgage debt. More than half of the debt held by the older group is in other debt (51% versus 21%) perhaps because a few in the older group have relatively high levels of business debt.

Qualified credit for the younger group is higher than that for the older group, whereas potential credit (qualified credit + nonqualified credit) is higher for the older group, due to their higher levels of home equity and pension assets.

In general, for both the whole sample and for those with total debt, most debt and credit means are lower for the older group. Mean potential level is similar for both age groups. Thus, although both age groups could "fall in the hole" about the same distance (potential level), given the lower total debt and qualified level of the older group, they may be less likely than the younger group to tap their yet unused credit or maximize their debt load. It is not clear if this is a life cycle or a cohort effect.

Table 2
Debt and Credit Means

Variables	Age < 65	Age ≥ 65
Consumer debt	5564	1668
	(7952)[a]	(4820)
Mortgage debt	27959	4689
	(59717)	(30740)
Household debt	33523	6257
	(41737)	(15609)
Other debt	9043	6544
	(48876)	(80256)
Total debt	42566	12900
	(51816)	(29661)
Qualified credit	7616	5649
	(7786)[b]	(6801)
Nonqualified credit	44032	63437
	(47370)	(70934)
Potential credit	51649	69087
	(55156)	(77741)
Qualified level	50182	18550
	(59603)	(36467)
Potential level	94215	81987
	(106972)	(107402)

[a] means for those with nonzero balance in given debt category
[b] means for those with nonzero debt

Limitations

Differences in debt and credit usage by age group may not be statistically significant and influence of other factors was not controlled. Ability to repay debt from income or assets was not considered. Age related differences in income sources and in type and amount of assets available for collateral was ignored. Life cycle and cohort effects cannot be distinguished with cross sectional data. Future research is needed to address these limitations.

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Endnote

1. Assistant Professor, Consumer and Family Economics Department.

From Research to Program Development

One of the major consumers of research is the educator. Collaboration and consultation between the researcher and educators representing a variety of educational specializations has the potential for maximizing the capacity of research efforts to inform education at many levels.

Carole G. Bozworth, University of Missouri[1]

In the keynote address, Skip Humphrey made the point that the research done by the members of ACCI was essential to informing government officials as they consider policies which impact American consumers. He further noted how important consumer education is to a well functioning economy -- the tremendous impact there would be if consumers had the facts they need to make important financial decisions. One of the major purposes of research in our field is to inform the process of education. Indeed, we might go so far as to say that the educator is one of the primary consumers of our research. Classroom teachers make every effort to inform their teaching efforts with the latest in research findings and extension educators are mandated to base the programs they develop on research.

Ideally then, the educator and the researcher are not working in isolation of each other. We would encourage collaboration, or at least consultation, between the researcher and the educator throughout the research process. Especially important to the usability of the research findings by the educator is collaboration at the point of framing the research questions. Most times, the researcher is also an educator, but in the enthusiasm to get published, the researcher sometimes forgets to examine his/her research questions from the perspective of their role as educator. Because educators are often specialized in either undergraduate, graduate, or extension education, when they develop research questions, they do not always solicit input from individuals representing the other educational specializations. Using a variety of educators to inform the research process from the very beginning will go far in producing research with the greatest potential for informing the educational process.

Looking at the three papers presented in this panel, there are several applications for using the research findings to enrich the educational process:

1. Any educational program on credit use or debt management would be informed by the data concerning debt level of households and how it is distributed across the various debt categories.

2. The Potential Level variable, which was quantified in the first paper, could also be used in a discussion of the persuasive aspects of advertising, especially the current aggressive advertising related to home equity loans and lines of credit.

3. The study which examines credit and debt by family type would inform any classroom discussion of family composition and the relationship between family composition and financial well-being.

4. Certainly the findings from the family type study would serve extension educators in targeting audiences for credit education and debt management programs.

5. The findings from the study which compared credit and debt portfolios of younger and older households illustrates that education about consumer credit need not be limited to only younger audiences. The results of that study indicate that a discussion of credit use and debt management could be a component of any program on financial management in retirement.

6. The higher level of non-qualified credit available to the group age 65+ and a shifting in attitudes about credit as each new cohort moves toward retirement alerts educators to the need for some pre-retirement education directed to the impact of tapping into assets which represent financial security for the retirement years.

The papers presented today were just a beginning of the research efforts directed to the topic of household credit and debt. As this topic is explored in more depth, there is great potential to do an even better job of targeting credit/debt educational programs to audiences with the most need and to inform any discussion of credit use and current debt level with sound research findings. The collaboration between researchers and educators representing a variety of educational specializations will continue as these topics are explored in the future.

Endnote

1. Assistant Professor, Department of Consumer and Family Economics.

Mentor's Advice: How to Get Hired, Tenured, and Promoted

This is a summary of a panel discussion, in which the panelists are ACCI Mentors. The panel was co-Chaired by Xiao and Hong.

Jing J. Xiao, University of Rhode Island[1]
Gong Soog Hong, Purdue University[2]

Panelists:
Geraldien I. Olson, Oregon State University[3]
Jane McCullough, Utah State University[4]
Jean Kinsey, University of Minnesota[5]
W. Keith Bryant, Cornell University[6]
Edward J. Metzen, University of Missouri[7]

This session was planned by the ACCI Development Committee. The purpose of the session was to initiate a dialogue between the ACCI Mentors and session participants regarding professional development, especially focusing on employment, tenure, and promotion.

Employment

Start early to find out what are expectations and demands for the jobs in this field instead of waiting until too late.

Read employment advertising now even though you are not in the job market yet.

Attending national conferences and delivering papers in conferences are important to network, learn this profession, and gain recognition from potential employers or colleagues.

As graduate students, volunteer to do something for your institution and community, such as teaching, extension work, and research projects, to gain varieties of experiences and build up your resume.

The advantages of this small field are that people are very close to each other, and they talk and recommend their students to each other a lot.

Talk to the people about your interests and plans and let people around you know what kind of job, teaching, research, or extension, you are looking for. They will think about you when opportunities come.

Initial contacts built through network and previous college and working experience are important in the employment process.

Use the job advertising to revise your resume to show your strengths that are needed by the potential employers.

Go to the workshops or seminars on employment issues available in your institution or national organizations.

Be prepared to give a seminar on your research and/or to teach a class when you are invited for a job interview.

Prior to going to a job interview, do your homework and try to learn as much as you can about the institution, the faculty, the programs, and the research projects.

Rehearse the presentations in front of a critical crowd before you present them to your potential employers.

In a job interview, be prepared to talk to all potential constituencies, not only faculty, but also administrators, students, extension specialists, secretaries, and other related people depending on the job description.

If English is not your native language, you may demonstrate in some way (formal and informal in-personal interviews, presentations at national or regional meetings, written materials) your ability to communicate in English well.

Be proud of being hired in this field because of the tough job market.

Beware of the political subtleties of the employment process.

"Choosing a right pond" is very important. Try to find an institution, teaching-, research-, policy-, or extension-focused, that best suit your interests and talents.

Tenure

Remember to follow the rules and commit to the tenure process from the beginning.

When we hire a person, we hope this person will fit in with us, succeed, and eventually get tenured.

The tenure committees are always helpers, supporters, and guides for people who are applying for tenure, so try to communicate well with them and get help from each of the committee members and other senior faculty members in the department and institution.

Find out the written agreements or documents on the expectations of your work and the process and criteria for tenure; read them carefully, understand them fully, and work hard to meet the expectations.

The tricky words of these documents are "services" and "impact;" make sure you understand what they mean and how to measure them in your institution.

Collect several sample tenure dossiers before prepare one for yourself.

Find two or three mentors in your department to talk about your performance every year before tenure, identifying what is satisfactory, what is not, and how to act further.

Take advantage of department annual reviews to see how well you are doing in the tenure process. If your department does not normally do it, demand it to be done.

Be a team player, and try to do things that benefit not only for yourself, but also for the department. Be a positive factor; this contributes to the morale of your department.

What gets you tenured are publications in major journals, presentations at national meetings, programs in extension, and good teaching.

In the tenure process, publications much outweigh service.

Multiple authorship does count in the tenure process; keep a record of your proportional contribution to each publication.

Don't wait too long to in working with co-authors. If the co-authors have no time to review your work, proceed on your own.

Indicate equal authorship in the footnotes if you are not the first author, but have contributed as much as the first author does, which will be counted in the tenure process.

Don't wait too long to get published. Submit papers to journals and wait 6-9 months. If there is no response from the editor, find other outlets for your research.

If you cannot fix a problem raised by a manuscript reviewer, find a person with expertise and work with her/him and invite her/him to be co-author or acknowledge her/his help in a footnote.

Proceedings papers are not sufficient; you need them to be published in refereed professional journals.

Publication is the most important part in the tenure process, but other components are also important and cannot be ignored.

Attending national conferences and serving national committees are, for the purposes of networking and professional development, more important after you get your first job than before.

Try to work with your department chair to find and serve a few committees that do not take much time from you.

If some people ask you to serve on committees that take a lot of time, you may say: "I am interested in this committee, and I may serve on it after I get tenured."

Females and minority members are in great demand for various committees, and you must learn to say no more often if you are in these groups in order to spend more time for research and publications.

Beware that there are some benefits of being on right committees, which are participating in the decision making process, gaining inside information, and expanding network.

Teach the classes assigned to you well, but be very cautious not to make a commitment to teach more than you are expected.

Beware that "being a good colleague" or "department citizenship" is a factor in the tenure process.

Collegiality is also an issue related to "carrying your weight" and "not letting others down."

Show your care about and contribution to your department or colleagues by sending messages to colleagues, contributing to the department meetings and seminars, providing input to the on-going projects in the department.

The image of a good colleague or "department citizen" sometimes is achieved by providing some service to the program.

Promotion

After you get tenured, try not to take too many administrative duties, which are commonly asked after tenure. Otherwise, you will be distracted from your own research and publication, which will hurt you when you apply for full professorship later.

To be promoted as a full professor, the university always asks if this person has built up a nationally recognized research or extension program, and if one is a good teacher.

To build a nationally recognized program, you have to focus on one or two areas and make significant contributions and don't scatter your shots too widely.

Try to focus on the area(s) that is(are) important for a long run for the state or the country.

An indicator of the impact of your work is national prominence; your voice should be important nationally, internationally, and continuously.

Grant writing is more important now than before in the promotion process.

For junior faculty, serving on some committees in national organizations is important, in which you can expand your network, gain national recognition, and build up your resume; but it should not take too much of your time.

You must earn good recommendations in the promotion process, which means you have to DO the job and do a GOOD job before you ask for support from senior faculty in this field. Those who write recommendations must maintain their integrity in the process, or they will lose their credibility among their peers.

Conclusion

Walk on water, and do it with class. And choose the right pond.

Don't forget personal ethics when you are choosing a pond.

You might want to read a recently published book, *"Scams and Scholars."*

Set priorities right and do everything right.

Endnotes

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(Almost) Everything You Want to Know About the New Consumer Leasing Rules

The Consumer Leasing Act covers consumer leases of four months or more where the value of the lease is for $25,000 or less. In October, 1997 new disclosure rules in Regulation M take effect which provide more information to help consumers make choices and comparisons among leases. In the end, however, leasing remains a complicated transaction and information asymmetry may remain a problem for consumers.

Jeanne M. Hogarth, Federal Reserve Board[1]

To Lease or Not to Lease?

Most consumers want to know, "Should I buy or should I lease?" And the answer most consumer educators give is, "It depends." Indeed, it does depend on many variables, including:

family finances -- how much money you have for a down payment and other up front costs as well as how much you can afford for monthly payments;

driving and car care habits -- how many miles you usually drive in a year and how well you maintain your car;

how long you usually keep your cars -- if you change cars every 2 to 3 years and "always have a car payment" or if you keep your cars a long time after the last loan payment and like not having those monthly payments;

your willingness to take the risk for the future value of the car -- when you lease, the lessor assumes the risk, but when you own, you take on the risk of the value of the car when you go to trade or sell it; and

your preferences for ownership -- when you lease a car, you're paying to use it, not own it.

In 1996, 29 percent of new cars were delivered as leased cars, up from 5.3 percent in 1987. The car leasing industry estimates that in 1997, nearly one-third of new cars will be leased. The average term of a lease was 36 months; 98 percent of leases in 1996 were for 4 years or less. Most leases had a mileage allowance of between 12,000 and 15,000 miles per year, although there are some special low mileage and high mileage leases available to consumers.

In a survey of over 6,000 lessees, CNW Research reported that in 1996, the average lessee was between 40 and 41 years old and had a household income of $67,200 (CNW, 1997). Over two-thirds (68 percent) had a college degree and over half (57 percent) were male. Nearly two-fifths (39 percent) were first time lessees; the remaining 61 percent were repeat lessees. Most lessees (70 percent) made a down payment on their leases, averaging $1,925; one-third traded in a car.

When asked why they were leasing, 46 percent said the most important reason for leasing was to get a lower monthly payment. It is true that, *ceteris paribus*, a monthly lease payment is lower than a loan payment for the same car. Nearly one-fourth (23 percent) said they leased because of the chance to have a lower or no down payment and 21 percent said they were leasing in order to drive a nicer car than they could afford to buy. First time lessees were asked who recommended leasing to them, and one-third (34 percent) said that they were influenced by advertising; 21 percent indicated that a business associate recommended it, and 21 percent said the dealer recommended leasing.

Components of Lease Payments

As consumers move from buying cars to leasing cars, they need to learn a whole new vocabulary and a whole new calculus for car financing. (In the following section, required disclosures under the new regulations for the Consumer Leasing Act appear in bold type (Regulation M, 1996).) The starting point for a lease cost calculation is the **gross capitalized cost:**

Gross Capitalized Cost = price of car + dealer installed options + service contracts + insurance that is capitalized + prior credit or lease balances + freight + other fees that are capitalized (vs. paid up front or elsewhere in the lease)

The next step is to determine if there are any **capitalized cost reductions:**

Capitalized Cost Reductions = down payment + trade-in allowance + rebates and subtract these from the **gross capitalized cost** to arrive at an **adjusted capitalized cost**:

Adjusted Capitalized Cost = Gross Capitalized Cost - Capitalized Cost Reductions

Consumers have some room to negotiate amounts in these components of the lease. Certainly they can negotiate the price of the car, as well as the value of any trade-in they may have. And they should be willing to ask about dealer incentives and rebates available to them.

The next key component of a lease calculation is the estimate of the **residual value** of the car at the end of the lease. Unlike the price of the car, this value is not likely to be negotiable. **Residual values** are set by the lessor and based on sources such as the *Automotive Lease Guide*, the *Kelley Blue Book for Leases,* or lessor fleet data. **Residual value** is usually calculated as a percent of the sticker price of the car (the manufacturer's suggested retail price or MSRP), regardless of the price the consumer has negotiated.

The **residual value** is subtracted from the **adjusted capitalized cost** to determine the **depreciation**, the decline in the car's value through normal use over the term of the lease:

Depreciation = Adjusted Capitalized Cost - Residual Value

From this, you can see that the higher the residual value, the lower the depreciation (or the lower the residual value, the higher the depreciation).
Depreciation is the major component of the monthly lease payment. If you plan to turn in the car at the end of the lease, you would want to minimize the depreciation; thus you want to find a deal with a high residual value. On the other hand, if you think you might want to purchase the car at the end of the lease, you might want to pay more on depreciation during the lease so there is a lower cost to you at the end of the lease. Also, since depreciation rates are usually higher for the first one or two years of a car's economic life, the relative costs attributable to **depreciation** are higher for two year leases than for leases lasting three or four years (when depreciation rates are a bit lower) (see Devorak, 1996).

Another key component of a lease calculation is the cost of money, given as a **rent charge** on the new disclosure form. The **rent charge** is analogous to the interest or finance charge on a loan or credit agreement, although in some leases, the **rent charge** may include other charges as well as the cost of funds, so the comparison is not exact.

Although the **rent charge** reflects the cost of money, there is no "lease rate" disclosure that can be compared to an APR in a loan or credit agreement. It is the case that most leases have too many variables to arrive at a unique solution to the question of "what is the lease rate?" In most instances, the true lease rate depends on what options the consumer exercises at the end of the lease (e.g. to turn in the car and "walk away" or to buy the car if there is a purchase option). In fact, the new regulations discourage lessors from advertising or promoting a lease rate. If a lease rate is given, it must be accompanied by the statement that:

> ***This percentage may not measure the overall cost of financing this lease.***

The **rent charge** is the one number on the lease disclosure form that consumers will have the most difficulty verifying. It is also one place in the lease where dealers may try to practice "overaging" -- charging a higher rent charge than required by the lessor and keeping the difference as extra profit.

Consumers may hear about "money factors," which are marginally related to interest rates. A money factor is given as a decimal (e.g. .0032). The usual metric is to take the "money factor" and multiply by 2400 to arrive at a ball-park estimate of the interest rate on the lease (e.g. .0032 * 2400 = 7.68). Some lessors use multiple factors to arrive at the rent charge, which further complicates the problem of verification for consumers.

Adding the **depreciation** and the **rent charge** gives you the total of the **base payments**:

Base Payments = Depreciation + Rent Charge

and dividing the **base payments** by the number of months in the **lease term** gives you the **base monthly payment:**

Base Monthly Payment = Base Payment / Lease Term

There are a number of other fees or charges that can be added to this **base monthly payment** to create the **total monthly payment.** For example, many states and localities add a sales or use tax to leases in lieu of the sales tax paid on a purchased car. In states with personal property taxes, lessors may require that monthly amounts be paid into an escrow account:

Total Monthly Payment = Base Monthly Payment + Sales/Use Tax + Other Monthly Fees

Other Disclosures

The new leasing regulations borrow the "Fed Box" from Truth-in-Lending and highlight four key pieces of information at the top of the form: the amount due at lease signing, the schedule of monthly payments, other charges (not part of the monthly payment or due up front), and the total of payments.

The amount due at lease signing is further broken down into capitalized cost reduction, first monthly payment, refundable security deposit, title and registration fees, and other fees due up-front. Parallel to this is a list of how those amounts will be paid: trade-in allowances, rebates and non-cash credits (dealer incentives), and amounts paid in cash. This itemization was developed to counteract problems of "disappearing" down payments and trade-ins.

Another disclosure highlighted on the new form is a notice about early termination. Consumers may end leases early for a variety of reasons: the car may have been stolen or destroyed; the consumer may be transferred (this applies especially to military lessees); or the consumer simply may have grown tired of the car. However, a lease is a contract, and getting out of any contract may be costly. Consumers may be liable for the balance due on the lease, plus any fees and charges necessary to process the end of the contract. As the disclosure states:

> **You may have to pay a substantial charge if you end this lease early. The charge may be up to several thousand dollars. The actual charge will depend on when the lease is terminated. The earlier you end the lease, the greater this charge is likely to be.** (note: bold and underline are part of the required disclosure)

Lessors must also disclose standards for excess wear for both cosmetic (dings, dents, upholstery stains) and mechanical wear (for example, how much tread must be left on the tires when you return the car). Lessors must also disclose the mileage limitation (most leases currently limit lessees to 12,000 to 15,000 miles), and the per-mile charge for mileage over the limit. In general, most lessors advise that if you think you are likely to exceed the miles proposed in the lease, you "buy" extra miles up-front (usually reflected in a lower residual value).

If you have an option to purchase the car at the end of the lease, this must be disclosed along with the price you will pay. If the lessor charges a fee to exercise this option, the fee must also be disclosed.

Finally, the disclosure must contain language that refers consumers to other pages of the lease for additional information on early termination, purchase options and maintenance responsibilities, warranties, late and default charges, insurance, and any security interest the lessor may have.

Shopping for a Lease Deal

Subventions and Incentives

Lessors -- the owner of the car who "rents" it to the consumer to use -- may be a car dealer, a bank, a credit union, a "captive" finance company (Ford Motor Credit, GMAC, Toyota Credit, etc.), or another finance company (e.g. G.E. Capital). Car dealers usually have several different sources of leases that can be used in consumer leasing, one of which is usually the "captive" finance company. Consumers should ask dealers to show them the lease costs associated with various lessors in order to get a comparison of the terms and conditions of the lease.

These different lease funding sources may offer different incentives, called subventions in the leasing industry, to dealers. Some deals may offer to subvent the capitalized cost reduction in the form of a rebate (see column 1 in Table 1); others may subvent the residual value or the lease charge (Durkin, 1996). Notice that in all the cases in Table 1, the cost of the car starts out the same and the base monthly payment ends up the same. But if a consumer thought that he or she might want to buy the car at the end of the lease, the deals in column 1 and 3 would be "better," since the residual value (which is usually the purchase option price) is lower. If the consumer was shopping on interest rate charges, he or she might be drawn toward lease #3 (with an implicit 0% interest), even though it turns out to be on a par with the other two deals.

The three columns in Table 1 also make another point -- you may start out from the same point and end up at the same place, but you can get there through different routes. This complexity in leasing calculations is one of the reasons consumers need to be careful when comparison shopping for leases.

Buy versus Lease Comparisons

Many consumer publications on leasing and most leasing organizations publish some sort of "buy versus lease" comparison (see, for example, Kranitz, 1997). Consumers need to pay attention to what the comparison includes, and, very often, what it excludes. Most comparisons focus on differences between a lease and a loan; a few include a cash sale or a single payment lease.

Comparisons include -- or exclude -- assumptions about personal discount rates, interest rates on a loan, what happens at the end of the lease or loan, and how long you keep the car, depending on the point the source of the comparison is trying to make. Varying the interest or discount rate can make the decision to lease look more or less favorable. For example, a five percent discount rate may lead do a very different decision than a ten percent discount rate. Consumers need to study these comparisons carefully and consider their own situations and preferences.

Advertising

We know from the leasing survey cited above that when lessees were asked who recommended leasing to them, one-third (34 percent) said that they were influenced by advertising. The new regulation includes some rules governing advertising, but it is still the case that consumers must read ads carefully. If an add contains a "triggering term" (the amount of any payment, the number of required payments, or a statement about any capitalized cost reduction [down payment]), then the ad must also:

state that the transaction is a lease;
indicate the total amount due at lease signing;
indicate the number and amount of monthly payments;
state whether there is a purchase option;
state the residual value or the method of determining the lessee's liability at the end of the lease.

If the ad appears on television or radio, it may list a toll-free number for additional information instead of making these disclosures.

Consumers need to learn the how that "low,low monthly payment" is affected by the assumptions about capitalized cost (including what equipment and options are on the car), mileage limits, dealer rebates, down payments, and residual values. These values are all interdependent and can affect the monthly payment as well as the overall value of the offer.

Conclusion

Leasing is not for everyone, but it can be a good deal for some consumers if it fits with their tastes and preferences. If consumers understand that leasing is different from buying; if they understand all up-front, ongoing, and end of lease costs before they sign the lease; if they shop and compare lease offers and negotiate amounts in the contract; and if they know their rights and responsibilities in their lease agreements, then leasing can be a win-win situation for both consumers and the marketplace.

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Endnote

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Table 1
Subvention/Incentive Patterns

	1 Subvent Rebate	2 Subvent Residual	3 Subvent Rent Charge
1. Gross Cap. Cost	$20,000	$20,000	$20,000
2. Cap. Cost Reduction	- 3,500	- 2,000	- 2,00
3. Adjusted Cap. Cost	16,500	18,000	18,000
4. Residual Value	-12,000	-13,500	-12,000
5. Depreciation	4,500	4,500	6,000
6. Rent Charge	+ 1,500	+ 1,500	+ 0
7. Total of Base Monthly Payments	6,000	6,000	6,000
8. Lease Term	÷ 24	÷ 24	÷ 24
9. Base Monthly Payment	$ 250	$ 250	$ 250

Characteristics of Consumers Who Seek Third Party Redress

Using logistic regression analysis, consumers' propensities to seek redress from specific third party agencies were estimated. These actions included complaining to the Better Business Bureau, consumer agencies, federal agencies, the state attorney general, and taking legal action. Attitudes towards business, education and the consumer's knowledge of legal rights were found to be important determinants for consumers decisions in seeking third party redress, while age, gender, and income had limited influence. Implications for business and consumer educators were drawn from the findings.

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Introduction

Consumer Complaint Behavior (CCB) has been a field of interest for researchers since the mid-1970's. CCB is triggered by a consumer's feelings of dissatisfaction with a purchase (Singh & Pandya, 1991) which results from the difference between the expectation and the reality of a purchase (Bearden & Oliver, 1985). Though dissatisfaction is necessary for CCB to exist, dissatisfaction itself is not a sufficient condition for complaining to occur (Singh & Pandya, 1991). CCB is a choice made by a consumer which is based on judgements that the outcome of the complaint will outweigh the time and costs involved in the process (Strahle & Day, 1984; Singh & Pandya, 1991).

A consumer's complaining action can take a variety of forms ranging from complaining to family and friends to taking legal action. Among these CCB actions, third party response can be considered to be the most vigorous. Third party refers to an individual and/or organization who is external to the consumer who initiates redress and is not directly involved in the dissatisfying transaction (Singh, 1988). The percentage of consumers who seek third party redress is relatively small (Bearden, 1983), however, this small percentage leads to large and often negative consequences for business (Singh, 1989).

In fact, the incidence of legal cases and complaints to third party agencies increased in the 1980's, and the costs to the society and the "focal industry" increased accordingly (Singh, 1989, p. 330). Furthermore, the continuing globalization of the marketplace gives an increasing opportunity for consumers to purchase products and services directly from international sellers, and cultural, language and legal differences create a need for third party assistance between consumers and international sellers (Joustra, 1992). However, despite these significant consequences for business and consumers relating to third party redress, only limited research efforts have been devoted to investigate consumers' third party redress actions.

The purpose of this study is to investigate consumers' third party redress actions. Specifically, which factors encourage consumers' likelihood to seek redress from a variety of third party options such as the Better Business Bureau, consumer agencies, federal agencies, the state attorney general's office, and/or filing a law suit.

Literature Review

Research into third party redress is limited. Singh (1989) defined three times when third party actions might be taken by the consumer: (1) when all other CCB options have been unsuccessful, (2) when perception of success of Voice CCB is minimal, and (3) the action may be unrelated to other CCB actions. Urisic (1985) determined through path analysis that access to the legal system, the perceived effectiveness of the action, and the complainers anxiety level about the action was instrumental in determining if third party action would be taken.

Researchers agree that complaint behaviors differ among product classes and between product classes and services. Oster (1980) found complaint frequency increased when an item was infrequently purchased, the product had a low income elasticity, the price of the product was high, or when the product was volatile in price level. More specifically, Duhaime and Ash (1979) found that consumers purchasing transportation items, financial services and/or insurance were more inclined to seek outside assistance in complaint resolution.

Strahle and Day (1984) found that males were more apt than females to take legal action or to seek assistance from a consumer agency/public official. Duhaime and Ash (1979) found that females relied on third party actions more than males on transportation items, financial services or insurance purchases in their study of gender and complaining behavior. Thus, the previous findings on the effect of gender on third party redress are inconsistent.

Bernhardt (1981) proposed that older consumers would be more likely to seek third party redress since their extended market experience would reinforce their ability to confidently state dissatisfaction. However, empirical research indicates that older consumers are less likely to complain (Bearden, 1983). LaForge (1989) attempts to explain these findings with the learned helplessness theory, the notion that after repeated failure to achieve a desired outcome or in preventing a negative outcome, the learning process inhibits a consumer from complaining. Other explanations include economic constraints, a perception that the effort of complaining is not worth the costs involved, or not knowing where to complain (Bernhardt, 1981). Consumers who exhibit a tendency toward third party redress have been found to be young (Duhaime & Ash, 1979; Bearden, 1983).

Consumers who seek third party redress tend to be well educated and have been found to be in the upper income ranges (Bearden, 1983; Duhaime & Ash, 1979).

Based on the previous literature, the following hypotheses are developed:

H1: Younger consumers are more likely to seek third party redress than older consumers.

H2: More highly educated consumers are more likely to seek third party redress than less highly educated consumers.

H3: More affluent consumers are more likely to seek third party redress than less affluent consumers.

H4: Gender does not influence consumers' likelihood to take third party action.

Methodology

Data:

Data provided by the 1993 Interview of Consumer Behavior commissioned by the American Association of Retired Persons (AARP) were used to investigate the characteristics of consumers who seek third party redress. The data set was based on telephone interviews among a nationally representative sample of 957 adults 18 years of age or older. Sampling techniques ensured that a substantial number of elderly (over 65) consumers would be included in the interviews. Demographic weighting parameters derived from Current Population Survey (March, 1993) by the U.S. Census Bureau allowed the final sample to mirror the demographic profile of the population of adults 18 years of age or older. The details of data collection are provided by the AARP (1994).

Dependent Variables:

Third party response actions were measured on a five-item, dichotomous category (Yes/No) scale. The respondents were asked which (if any) third party action was taken. The following categories were available for the respondent: (1) complained to the Better Business Bureau, (2) complained to a consumer agency/help line, (3) complained to the state attorney general's office, (4) complained to a federal agency (i.e. FTC), and (5) took legal action.

Independent Variables:

(1) Age: a continuous variable. (2) Education: a set of dummy variables was used to avoid a potential multicollearity problem since education and income have a high correlation: less than high school (base), high school graduate, some college, and B.S. or more. (3) Income: total annual income before taxes was grouped into seven categories: less than \$10,000, \$10,000 - \$20,000, \$20,000 - \$30,000, \$30,000 - \$40,000, \$40,000 - \$60,000, \$60,000 - \$100,000 and \$100,000 and over. The average value of each category was used in the analysis. (4) Gender: coded as a dummy variable, (0=male and 1=female). (5) Knowledge of consumer rights: determined based on the response to a question relating to personal understanding of consumer rights and consumer laws by the respondents. A four-level scale was used (poor=1, only fair=2, good=3, and excellent=4). (6) Attitudes towards business: assessed by allowing respondents to rate the extent to which various business types try to take advantage of the consumer. A five-level scale was used (almost all=1, most=2, about half=3, some=4 and almost none=5). (7) Attitudes toward government: involvement on consumer protection responses included (A) government should do more (Gov), (B) competition is enough (Comp), and (C) both are equal (base). (8) Marital status: divided into unmarried (base) and married. (9) Race: divided into Non-Hispanic, Whites, and non-Whites.

Analysis:

The purpose of this study is to identify the characteristics of consumers who are prone to seek third party redress. Logistic regression analysis was performed for each of the five third party response categories, with the dependent variable being whether a particular action response was used by a respondent or not. Independent

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variables included age, education, income, gender, knowledge of consumer rights, attitude toward business, attitudes toward consumer protection, marital status and race.

Results and Discussion

Of the 957 respondents, 37 percent took some form of third party action during their lifetime (Table 1). Specifically, the respondents sought redress from the Better Business Bureau most frequently. Utilizing a federal agency for complaint resolution was the least frequently used option. The three remaining options (from most frequently used to least frequently used) were the use of a consumer agency, contacting the state attorney's office and taking legal action.

Table 1.
Frequency (Percentage of Respondents Who Sought Third Party Redress

Consumer Complaint Behavior	**Yes**	**No**
Complained to a Better Business Bureau	258 (26.96%)	699 (73.04%)
Complained to a consumer agency/help line	114 (11.91%)	843 (88.09%)
Complained to the state attorney general's office	101 (10.55%)	856 (89.45%)
Complained to a federal agency	28 (2.93%)	929 (97.07%)
Taken legal action	84 (8.78%)	873 (91.22%)
Took any of the above Third Party Responses	358 (37.41%)	599 (62.59%)

The Logit models were estimated using the LOGISTIC procedure of SAS for each of the five third party response options. Most models predict the usage very well (p=0.0001), with the exception of contacting a federal agency (p=0.0778). Table 2 presents the results of the estimation of these models.

Table 2
Results of Logistic Regression Analysis, Parameter Estimates

Variables	**Better Business Bureau**	**Consumer Agency Help Line**	**State Attorney General's Office**	**Federal Agency**	**Legal Action**
Age	-0.00066	-0.00089	-0.00117	0.0174	-0.00144
Education					
High School	**0.4355***	-0.4052	-0.1021	-0.2634	-0.6711
Some College	**0.9062****	0.5888	**0.4078***	-0.1029	-0.2028
Earned B.S.	**0.9359****	0.6502	0.1746	0.5308	-0.0747
Income	0.0957	**0.4401****	0.2548	-0.2167	0.2991
Gender	0.1854	**-0.6209****	-0.2143	-0.3488	-0.3574
Knowledge of Consumer Rights	0.1599	0.0401	0.0769	0.5229	**0.3431***
Attitudes Towards Business	**-0.4635*****	**-0.5162*****	**-0.3412***	**-0.6381***	**-0.3913***
Attitudes Towards Government	0.0620	-0.3523	-0.0461	-0.4454	0.4902
Attitudes Towards Competition	-0.1502	-0.1459	0.0405	-0.1825	0.4631
Marital Status	0.2420	-0.2557	0.4725	0.2737	0.2535
Race	0.1855	0.4967	-0.2933	0.8188	0.1651
McFadden's R2	0.084	0.110	0.120	0.093	0.121

*p<.05. **p<.01. ***p<.001.

Each complaint option is discussed individually in the following paragraphs.

Better Business Bureau: Education and attitude towards business were found to significantly influence consumers' likelihood to seek assistance from the BBB. More educated consumers were more likely to seek redress from the BBB than less educated consumers. Those consumers who believed businesses do not deal fairly with them were more inclined to seek assistance from the BBB.

Consumer Agency: Among the independent variables, three were found to be significant. Income was found to have a positive effect on the consumers' likelihood to seek redress from a consumer agency. That is, more affluent consumers were more likely to seek redress from a consumer agency. Consumers who have a negative attitude towards business were more inclined to utilize this redress option. Finally, male respondents were more likely to use consumer agencies for redress than female respondents.

State Attorney General's Office: Consumers who sought redress from the state attorney general's office were found to have some college education. In addition, their attitude toward business practices were found to be negative. That is, consumers with negative attitudes toward business tended to seek redress from the state attorney general's office more often than consumers with a positive attitude.

Federal Agency: Knowledge of consumer rights and attitudes toward business practices were found to be significant factors influencing consumers' decisions to seek redress from a federal agency. Although not found to be significant, consumers with more knowledge about consumer rights and/or a negative attitude toward business tended to seek redress from a federal agency more than their counterparts.

Legal Action: Among the independent variables, two were found to be significant in consumers who sought legal action. Consumers who have negative attitudes towards business were more inclined to utilize this redress option. Also, consumers who have a greater knowledge of their rights in the marketplace sought legal action.

Third Party Redress: Two of the ten independent variables were found to be significant among those consumers who sought some type of third party redress - consumer knowledge and attitude toward business. Consumers with more knowledge of consumer rights and/or have a negative attitude towards business tended to seek some type of third party redress more than their counterparts.

The independent variable age was not found to be significant in consumers who sought third party redress with the exception of the specific complaint behavior of contacting a consumer agency. This result does not support the research of Bearden (1983) and Bernhardt (1981) who found that consumers who seek third party redress are younger. Nor does this finding support the notion of learned helplessness expressed by LaForge (1989).

Research by Bearden (1983) supporting the hypothesis that consumers who seek third party redress will have more education and have a higher income was only partially supported in this study. Specifically, consumers who sought redress through the BBB were found to have more education while consumers who sought redress through a consumer agency were found to have a higher income level. Neither education nor income were found to impact a consumers' propensity to seek third party redress.

Gender was found to be significant only when a respondent sought redress from a consumer agency. This finding supports part of the research by Strahle and Day (1984) who found that males more than females sought outside assistance from a consumer agency/public official, but does not support their assertion that males more than females tend to take legal action. Further, results reported by Duhaime and Ash (1979) that females more than males relied on third party action cannot be supported.

Among the independent variables, only one was found to be significant across all categories of third party redress. Consumers who had a negative attitude toward business were found to take third party actions. And, the consumers' knowledge of their marketplace rights was found significant if the consumer sought legal action.

Implications and Conclusion

In this study, specific forms of third party redress were investigated. It was found that a significant number of consumers considered the BBB as a viable source to assist their redress while only a small number of consumers sought redress from other third party agencies such as a consumer agency, the state attorney general's office, a federal agency, or by taking legal action. The effects of various determinants in seeking third party redress were investigated and in contrast to previous literature, age and income did not influence consumers' tendency to seek third party redress.

A consumer's attitude towards business practices in the marketplace is the only mitigating variable in third party redress that was consistently found to have significant value. Education and consumers' knowledge of consumer rights also contributed to consumers' redress seeking from the BBB and when taking legal action. Income and gender were found to contribute to consumer's decision to seek assistance from a consumer agency. As this analysis indicates, consumer characteristics change with each of the complaint options leaving an unanswered question of whether or not this is due to increased costs to the consumer when seeking specific forms of redress. More attention to the specifics of a cost- benefit model of third party redress would provide insight. Unfortunately, this data set was unable to supply the needed information.

The results of this study carries messages for business, educators, and consumers alike. For the businesses seeking to reduce their third party redress liability, an image change is imperative. The one underlying variable determining a consumer's willingness to seek third party redress is their belief that business is basically unjust in its dealings with consumers. Changing this attitude will take perseverance and patience on the part of business.

Educators have the difficulty of informing the consumer of their consumer rights. While the objective seems easy enough (an educator is trained to teach), there is a challenge. The traditional classroom with regard to

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student composition and physical size does not exist in the marketplace. Therefore, teaching techniques must be adopted to accommodate the different setting.

This study indicates that a subjective trait, attitude towards business, encourages or discourages a consumer to seek third party redress. With the time and costs involved in taking third party action, it may not be in the consumers best interest to choose a specific third party action based on familiarity. Therefore, if consumers are taught to objectively view their dissatisfaction experience, an appropriate and unbiased third party redress action can be taken.

As consumers become more knowledgeable of their rights, their willingness to participate in third party redress will increase. According to Verhage (1987), the society at large will benefit as businesses impose corrective actions resulting from increased third party action. The relationship between the buyer and seller will also improve. As a consequence, business will become more trustworthy to the consumer thus reducing third party action.

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Endnote

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An Investigation of Four Investor Risk Preference Rules-of-Thumb

Financial planners and consumer finance educators often use investor risk preference rules-of-thumb when assisting individuals and families make financial decisions to allocate resources. The purpose of this paper is to review four of these widely used rules-of-thumb. Based on the results of an exploratory risk preference survey (N = 68) there appears to be no relationship between investor risk preference and four demographic variables: gender, age, marital status, and income.

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Identification and understanding of the degree of investment volatility an investor prefers (i.e., investor risk preference) is necessary when creating investment allocation strategies (Leimberg, Satinsky, LeClair, & Doyle, 1988). Because risk preference is difficult to measure, it is not uncommon for financial planners to use risk preference rules-of-thumb to assess someone's risk preference. Examples of risk preference rules-of-thumb include the following: a) men take more risks than women, b) older people prefer less risk than do younger persons, c) single individuals take more risks than marrieds, and d) people with high incomes take more risks than others (Roszkowski, Snelbecker, & Leimberg, 1988).

The purpose of this paper is to review these four widely used rules-of-thumb, and to test the hypotheses which underlie these rules. The conclusions of this paper are intended to enhance the ongoing discussion regarding the use of rules-of-thumb in personal financial management and consumer education.

Literature Review & Background

The subject of risk taking has received a great deal of attention from both psychologists and economists (Leimberg et al., 1988). Attempts to measure determinants of investor risk preference include studies conducted by Cutler (1995), Droms (1988), Gehrels (1991), Kahneman (1979), Lee and Hanna (1991), Lux (1995), MacCrimmon and Wehrung (1986), Masters (1989), Okun, Stock, and Ceurvorst (1980), Riley and Chow (1992), Shefrin and Statman (1993), Snelbecker et al. (1990), Sung and Hanna (1996), Weagley and Gannon (1991), and Yoo (1994). Results from past research have tended to be contradictory when determining the efficacy of certain demographic characteristics in predicting investor risk preference (i.e., demographics used as the basis of investor risk preference rules-of-thumb).

Methodology

Statistical Analysis

This study was undertaken to investigate the relationship between investor risk preference (dependent variable) and four demographic variables: gender, age, marital status, and income. Specifically, the research questions were as follows: a) whether risk preference was significantly different between men and women, b) whether risk preference decreased with age, c) whether singles had higher risk preferences than marrieds, and d) whether risk preference increased with increases in income. As an approach of assessing the statistical significance of these relationships Analysis of Variance (ANOVA) procedures and t-tests were undertaken. The null hypotheses for this study included:

H1: $\underline{M}_{\text{Men}} = \underline{M}_{\text{Women}}$
H2: $\underline{M}_{\text{Young}} = \underline{M}_{\text{Middle-Aged}} = \underline{M}_{\text{Older}}$
H3: $\underline{M}_{\text{Single}} = \underline{M}_{\text{Married}}$
H4: $\underline{M}_{\text{Low Inc.}} = \underline{M}_{\text{Mid-Inc.}} = \underline{M}_{\text{High Inc.}}$

Survey Instrument

A risk preference questionnaire consisting of 21 questions obtained from previous research was developed to obtain data for this study. Fifteen of the questions dealt specifically with risk preferences, while six questions queried demographic variables. The questionnaire was created using four criteria developed by MacCrimmon and Wehrung (1986). Specifically, the questionnaire contained some central concept of risk, allowed the derivation of a risk measure, appeared relevant to respondents, and allowed easy administration. Questions were chosen for inclusion if they satisfied several criteria also developed by MacCrimmon and Wehrung. Collectively the questions a) covered a variety of risky situations in which to assess risk propensity in a multidimensional manner, b) avoided redundancy and inconsistency, c) were interesting to complete, and d) took a short amount of time to finish.

The questionnaire was self-administered. Instructions specified that there were no 'correct' answers to the questions, and that the aim of the study was to find out how people choose among risky choices. Hypothetical choices emerged as the simplest procedure to conduct such an investigation, because the method relies on the assumption that people know how they would behave in actual situations, and that subjects have no special reason to disguise their true preferences (Kahneman & Tversky; Shefrin & Statman, 1993).

Each question offered a number of hypothetical answers. Answers were given a weight according to the riskiness of the response. Higher weightings indicated a riskier choice, while lower weightings indicated a less risky choice. Responses from individual questionnaires were then combined into an index. The index was constructed by summing the weights corresponding to each response. Respondents were categorized into either low, moderate, or high risk preferences based on each individual's risk index score. The validity of the instrument was measured using operations suggested by Babbie (1983). The reliability of the instrument (.69) was confirmed using procedures as outlined by Pedhazur and Schmelkin (1991).

Sample

The total number of participants in this study was 68. The response rate was 90%. Survey participants were chosen from a proprietary financial planning data base. Names appearing on the data base consisted of individuals who at one time indicated an interest in receiving financial planning, investment management, or portfolio consulting services. Due to the exploratory nature of this study only subjects indicating interest in financial services after December 1994 were included.

The sample was demographically diverse. A majority of respondents (57%) were females, while 43% of respondents were male. Respondents indicated ages ranging from 21 years to 87 years, with 51% reporting ages of 40 or less, 31% indicating ages between 41 and 60, and 18% indicating an age of 61 or older. Fifty percent of respondents described their occupation as an executive, business owner, professional, or business manager. Other employment classifications included administrative personnel (16%), retired (9%), skilled manual labor (5%), and other (20%). Twenty percent of respondents declared incomes over $70,000, with a full 17% of respondents indicating income greater than $80,000. Fifty-one percent of respondents classified their household incomes in the range of $30,000 to $69,999, and 29% of respondents indicated having incomes of $29,999 or less.

The majority of respondents were married (62%), while the remainder classified themselves as never married (22%), divorced (9%), and other including widowed and separated (7%). When asked to describe their investment knowledge, a full 67% of respondents described themselves as beginner, while 33% described themselves as possessing intermediate or expert knowledge of investments.

Statistical Results

Variables were recoded to represent the demographic characteristics. Men were coded as 1, and women were coded as 0. Respondents indicating an age of 40 or less were coded 1 (young), while those with ages falling between 41 and 60 were coded 2 (middle-aged), and those with ages of 61 or older were coded as 3 (older). Married respondents were coded as 1, while all others (single) were coded as 0. Respondents with incomes less than $29,999 were coded as 1, while those with incomes between $30,000 and $69,999 were coded 2, and respondents with incomes above $70,000 were coded as 3. Risk preference scores were categorized as follows. Individuals scoring less than 21 were classified as having low investment risk preference, while individuals with index scores between 22 and 27 were considered to have a moderate investment risk preference. A score of 28 or above was categorized as high investment risk preference.

Gender differences. It was hypothesized that the mean index scores of male ($M = 23.72$, $SD = 4.58$) and female ($M = 24.31$, $SD = 3.91$) respondents should differ significantly, with men having higher mean scores than women. The hypothesis was tested using a pooled variance t-test. The null hypothesis, H1: $\underline{M}_{Men} = \underline{M}_{Women}$, stated that there were no differences in mean risk preference scores between men and women. The results of the t-test (Table 1) revealed no statistically significant differences in mean scores of respondents, $t(66) = -.55$, $p > .05$. The null hypothesis was not rejected.

Age differences. According to the most commonly used risk preference rule-of-thumb, mean index scores of young ($M = 23.686$, $SD = 4.497$), middle-aged ($M = 24.095$, $SD = 3.285$), and older ($M = 25.0.83$, $SD = 4.814$) respondents should differ significantly, with older adults having lower mean scores than younger individuals. As an approach of assessing the statistical significance of the relationship between investor age and risk preference an ANOVA procedure was undertaken.

The null hypothesis, H2: $\underline{M}_{\text{Young}} = \underline{M}_{\text{Middle-Aged}} = \underline{M}_{\text{Older}}$, stated that there were no mean differences based on age. The results of the one-way ANOVA (Table 2) revealed no statistically significant differences in mean scores of respondents, $F(2, 65) = .49, p > .05$. Furthermore, older respondents not only didn't have lower index scores when compared to younger respondents, on average their scores were higher than younger and middle-aged respondent scores. The pattern of means was consistent with the null hypothesis, thus, the results suggested no reason to reject the null hypothesis.

Marital status differences. Based on another rule-of-thumb, it was hypothesized that non-married individuals (M = 25.19, SD = 4.53) would have higher risk index scores than married respondents (M = 23.72, SD = 4.58). A pooled variance t-test was used to investigate this proposition. The null hypothesis, H3: $\underline{M}_{\text{Single}} = \underline{M}_{\text{Married}}$, suggested that there was no difference in mean risk scores between singles and married. T-test results (Table 1) revealed no statistically significant differences, $t(66) = -1.72, p > .05$. The null hypothesis was not rejected.

Table 1

Pooled variance t-test results of risk preference by gender and marital status.

Group	N	Mean	SD	t
Gender difference				
Males	29	23.72	4.58	-.55 (n.s.)
Females	39	24.31	3.91	
Marital difference				
Singles	26	25.19	4.53	-1.72 (n.s.)
Married	42	23.36	3.86	

Income differences. A widely held financial planning rule-of-thumb assumes that individuals with higher incomes prefer more risk than those with lower incomes. An ANOVA procedure was undertaken to determine if lower income respondents (M = 23.700, SD = 4.378), middle-income respondents (M = 24.457, SD = 4.421), and high income respondents (M = 23.538, SD = 3.357) in fact had significantly different risk preferences. The null hypothesis, H4: $\underline{M}_{\text{Low Income}} = \underline{M}_{\text{Mid-Income}} = \underline{M}_{\text{High Income}}$, stated that there were no differences in mean risk preference index scores based on income. ANOVA results (Table 2) revealed that income and investor risk preference were independent of each other, $F(2,65) = .33, p > .05$. The null hypothesis was not rejected.

Table 2

Analysis of variance of risk preference by age and income.

Source	df	SS	MS	F	p
Age difference (N =68)					
Between		2	17.5	8.7	.49
	.614				
Within	65	1158.3	17.8		
Total	67	1175.8			
Income difference (N = 68)					
Between		2	11.6	5.8	.33
	.724				
Within	65	1164.1	17.9		
Total	45	1175.8			

*p<.05

Results and Discussion

The results of this study suggest that commonly held investor risk preference rules-of-thumb may not accurately predict investor risk preference. There appears to be no relationship between gender and risk preference, age and risk preference, marital status and risk preference, or income and risk preference. In the words of Cutler (1995), risk preference rules-of-thumb based on these variables may be little more than myth.

The results further suggest that caution be employed before using risk preference rules-of-thumb based on gender, age, marital status, and income in personal financial management decisions. Instead, researchers and practitioners should look to other factors such as liquidity needs, net worth, stability of employment, tax status, and income variability when allocating financial resources (Cutler, 1995; Droms, 1988; Yoo, 1994).

The need for more risk preference research using survey instruments, and larger samples than the one used here, is crucial. Survey methods offer a way to directly compare individuals by allowing the standardization of situations that can be presented to anyone (MacCrimmon & Wehrung, 1986). Furthermore, surveys allow examination of the relationship and relevance between risk preference and other factors like inheritances received, life-style changes, fads, generational experiences, inertia, ignorance, and sociological or psychological mechanisms (Cutler, 1995; Hirsch, 1996; Lux, 1995).

As financial planners, consumer finance educators, and family financial management researchers endeavor to assist individuals and families understand their unique investment situations the results of this study, and others like it, will be useful in establishing appropriate risk preference guidelines. In summary, the further development of guidelines, and the continued testing of existing investor risk preference rules-of-thumb, is needed in order to assure that the aging baby boomer generation receives reliable and valid resource allocation advice.

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Factors Affecting Household Financial Expectations: A Multinomial Logit Analysis

This study explored the effects of socioeconomic and social-psychological characteristics on household financial expectations. Results of the multinomial logit model indicate that financial manager's age, educational attainment, and perception of current financial condition compared to five years ago were significant. This study shows the importance of using attitudinal variables along with objective factors when modeling consumer behavior.

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Consumers make a temporal choice in economic decisions; that is, to sacrifice spending now for expected benefits in the future (van Raaij, 1981). Thus, expected future financial well-being is an important criterion in studying consumer economic behavior. The purpose of this study was to examine the effects of socioeconomic and social-psychological variables on household managers' expectations of future financial condition.

Review of Literature

In his theory of expectations, Katona (1972) emphasized the role of consumers' motives, attitudes, and expectations as important factors in economic behavior. He proposed a conceptual framework when socioeconomic variables influence level of expectations, which depend on human capital resources. Similarly, Strumpel (1972) developed a model that an individual's aspiration level, which included expectations, was influenced by social and family background, experiences, social norms of reference groups, past accomplishment, present economic situation, and other environmental variables.

A few studies have investigated what factors affect an individual's financial expectations. Fitzsimmons and Wakita (1993) and Hira, Fitzsimmons, Hafstrom, and Bauer (1993) found that, as the financial manager aged, his/her expectation of financial condition tended to be lower. However, respondent's age was not a significant factor in Bailey and Lown's study (1992).

Hira et al. (1993) found that an increase in household income had a positive relationship with respondent's financial expectation. However, net worth was not a predictor of respondent's financial expectation.

Fitzsimmons and Wakita (1993) found a positive relationship between level of education and expectation of financial condition in five years for female household financial managers. Bryant and Veroff (1986) reported that an increase in level of education led to stronger self-confidence, but it also tended to increase the feeling of uncertainty about one's life. Women were more likely to feel uncertain about their lives than men.

Respondents who thought their financial situation would be better off in five years showed progress in their actual economic situations and standard of living (Katona, 1976). Fitzsimmons and Wakita (1993) found that household financial managers who reported improvement in their lives were more likely to expect their future financial condition to improve.

Methodology

Analytical framework

This study was based on theoretical models developed by Katona (1964, 1975) and Strumpel (1972). This study assumed that a household financial manager maximizes family utility according to his/her expectation of financial condition in five years. Also, a household financial manager has fairly accurate information about his/her future financial condition.

Data and sample

Data are from the 1987 Survey of Family Economic Well-Being, collected as part of the NC-182 regional project. Households in two rural counties in eight states were sampled[2]. The household financial manager was the person in the household who usually handled household finances. Final sample size was 2,510 households.

Sample characteristics

Respondents were mostly Caucasian (92%). Mean age was 51 years, and mean years of education completed was 13. About 72% were married, and 34% had at least one child younger than 18 years old in the household. Median household income before taxes in 1987 was $22,780. Slightly more than half of the respondents were female.

Variables

The dependent variable, household financial manager's expectation of future financial condition, was measured by response to, "Five years from now, do you expect that your financial condition will be... ." Answers were measured on a five-point Likert scale from 1 (much worse) to 5 (much better).

Independent variables were household financial manager's age, age squared, gender, number of years of education completed, age of youngest child in the household, household income before taxes, net worth, and perception of present financial condition. Although not included in previous studies, age of youngest child in the household was included as an indicator of family life cycle stage. Changes in demands and resources at different stages of the life cycle might affect household economic condition. Age of the youngest child was treated as a set of dummy variables. Respondent's perception of present financial condition was included as a social-psychological variable. Respondents were asked, "Compared to five years ago, would you say that your family's present financial condition is better off or worse off?" Answers ranged from 1 (much worse) to 5 (much better) and was treated as a set of dummy variables.

Method of Analysis

Since the dependent variable was measured on a five-point scale, the categories were considered to have a clear ranking. Thus, an ordinal logit analysis was used to determine factors affecting the likelihood of degrees of financial expectation. However, the chi-square result indicated that the model violated the parallel-line assumption, χ^2 (39, n = 2221) = 275.40, p < .0001. This implies that the coefficients of the independent variable were not constant regardless of the choice of response categories. (Demaris, 1992; Liao, 1994). Thus, effects of the coefficients would be invariant. Therefore, a multinomial logit regression was used to estimate the parameters. This method was appropriate because the dependent variable had more than two alternatives.

Table 1

Parameter Estimates of Multinomial Logit Model for Categories of Expectation by Household Financial Managers (n=2221)

(Standard errors in parentheses)

	Much worse v.s. Much better	Worse v.s. Much better	Same v.s. Much better	Better v.s. Much better
Intercept	-8.906 (2.407)**	-8.144 (1.614)**	-3.90 (0.986)**	-2.176 (0.883)*
Total income	-0.044 (0.031)	-0.022 (0.015)	-0.01 (0.011)	0.003 (0.010)
Education	-0.0240 (0.062)	-0.127 (0.042)**	-0.092 (0.034)**	-0.032 (0.033)
Net worth	-8.07E-06 (4.46E-06)	1.16E-07 (1.92E-06)	-9.08E-07 (1.55E-06)	-8.81E-07 (1.52E-06)
Age	0.177 (0.082)*	0.227 (0.057)**	0.142 (0.041)**	0.102 (0.039)**
Age squared	-0.00075 (0.00074)	-0.0013 (0.00054)*	-0.00064 (0.00042)	-0.00084 (0.00042)*
Gender (male = 0)	0.326 (0.316)	0.280 (0.208)	0.222 (0.161)	0.064 (0.151)
Financial past[a]				
Much worse	3.634 (0.679)**	2.174 (0.564)**	1.105 (0.402)**	1.207 (0.365)**
Worse	3.165 (0.615)**	3.431 (0.438)**	1.930 (0.298)**	1.589 (0.279)**
Same	1.365 (0.683)*	3.227 (0.416)**	2.701 (0.265)**	1.709 (0.253)**
Better	-0.524 (0.886)	1.276 (0.408)**	1.448 (0.207)**	1.224 (0.179)**
(Much better)				
Family Life Cycle[b]				
Child (0-3 years old)	1.001 (0.659)	-0.050 (0.512)	0.233 (0.262)	0.140 (0.222)
Child (4-12 years old)	-1.182 (0.698)	-0.363 (0.360)	-0.253 (0.224)	-0.270 (0.200)
Child (13-17 years old)	-0.736 (0.698)	-0.391 (0.401)	-0.295 (0.288)	-0.138 (0.275)
(No children)				

Model χ^2 1667.92** (degrees of freedom = 52)

*p ≤ .05. **p ≤ .01.

[a] Perception of current financial condition compared to five years ago.

[b] Family life cycle is measured by age of the youngest child (< 18 years old) in household.

Results and Discussion

Factors Associated with Expectation of Financial Condition in Five Years

Household financial manager's expectation of financial condition in five years was regressed on the independent variables. Coefficients in Table 1 express the effects relative to the reference category. The reference category was "financial condition in five years will be much better." Results showed that household financial manager's age, years of education completed, and perception of current financial condition compared to five years ago were significantly related to the household financial manager's expectation of financial condition in five years.

Predicted probabilities give an idea of how likely certain types of individuals are to have certain attitudes. Predicted probabilities were calculated for six categories of the age variable holding other variables at the sample mean (see Table 2). Older household financial managers were more likely to be pessimistic about their financial situation in five years than younger managers. And, as age increased, the respondent was more likely to expect his/her future financial condition to be the same or worse in five years. All of the predicted probabilities in the tables are expressed in percentages.

Table 2
Predicted Probabilities (Percentages) by Household Financial Manager's Age (n = 2221)

	Much Worse	Worse	Same	Better	Much Better
Age = 20	0.12	0.74	13.46	50.40	35.28
Age = 30	0.29	2.22	23.64	53.27	20.57
Age = 40	0.58	5.07	35.86	46.72	11.77
Age = 50	1.00	9.05	48.25	34.91	6.79
Age = 60	1.54	12.89	58.82	22.71	4.03
Age = 70	2.15	15.11	66.93	13.25	2.54

Predicted probabilities were calculated for educational attainment using four categories of educational holding other variables at the sample mean (see Table 3). As the respondent's educational attainment increased, his/her expected financial condition in five years was more optimistic.

Table 3
Predicted Probabilities (Percentages) by Household Financial Manager's Educational Attainment (n = 2221)

	Much Worse	Worse	Same	Better	Much Better
Educ = 9 years	0.75	9.10	52.25	30.76	7.14
Educ = 12	0.82	8.10	49.82	33.08	8.18
Educ = 16	0.96	6.30	44.52	37.63	10.58
Educ = 20	1.11	4.79	38.89	41.83	13.38

Table 4 shows the predicted probabilities of the household financial manager's expectation of future financial condition by perception of current financial condition compared to five years ago. Regardless of perception of current financial condition, respondents tended to have high probabilities that they expected their future financial condition to be the same or better. Overall, respondents seemed to be optimistic about their future economic condition. Furthermore, if the financial manager said that his/her financial condition was much better compared to five years ago, the predicted probability that his/her expected financial condition would be much better was higher.

Table 4
Predicted Probabilities (Percentages) by Household Financial Manager's Perception of Current Financial Condition Compared to Five Years Ago (n = 2221)

	Much Worse	Worse	Same	Better	Much Better
Fin. past[a] = much worse	13.57	9.36	30.80	36.61	9.67
Fin. past = worse	4.85	18.81	40.16	30.67	5.52
Fin. past = same	0.56	10.72	60.69	24.16	3.86
Fin. past = better	0.22	4.01	45.64	39.97	10.16
Fin. past = much better	1.11	3.30	31.64	33.98	29.98

[a] Perception of current financial condition compared to five years ago.

Conclusions and Implications

Age and educational attainment of the household financial manager were significant determinants of future financial expectations. Household financial manager's expectation decreased as he/she aged. In general, as educational attainment of the respondent increased, his/her expectation of financial condition in five years increased. This is consistent with Katona (1964, 1972, 1975) and Strumpel (1972) and suggests a more comprehensive study of individual's expectations. Also, household financial manager's perception of current financial condition had some impact on expectation of future financial condition. This suggests the importance of inclusion of attitudinal variables, particularly studying relationships among past, present, and future perceptions of financial condition when modeling consumer behavior.

Age of youngest child in the household did not affect expectation of future financial condition. This might be a function of the sample which tended to contain more elderly families who had completed child rearing.

Neither net worth nor household income was a significant determinant of financial manager's expectation of future financial condition. Because the sample consisted of relatively older families, the majority of respondents might have felt that their economic resources would improve little during the remainder of their lives. Another reason why net worth does did not influence expectation of future condition might be, as Hira et al. (1993) discussed, that respondents might not have had accurate information about the long-time effects of net worth on their future financial well-being.

Although this study did not look at the role of financial expectation as an intervening variable, it would be valuable for financial management educators to study the interrelationships among socioeconomic background, expectation of future financial condition, and economic achievement in the future. Also, when discussing long-term financial planning, educators need to emphasize to their clients the importance of the effects of net worth over the life cycle.

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Endnotes

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2. See Walson and Fitzsimmons (1993) for a description of the data sampling procedure.

Consumer Interests Annual *Volume 43, 1997*

Adequate Emergency Fund Holdings and Family Type

This study uses the 1992 Survey of Consumer Finances to construct five family types in order to examine its impact on household emergency fund holdings. Other variables in the analysis include age, education and race of the household head, income, debt, saving motive, risk tolerance, and income certainty. Results from the categorical variables indicate that family type as well as race and risk tolerance had a statistically significant effect on the probability of a household having an adequate level of emergency funds. Age and education of the household head are also found to have a positive, statistically significant impact on the probability of household meeting the guidelines for adequate emergency fund holdings.

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All households are vulnerable to many types of unplanned events which, in turn, may require unplanned expenses that can put a strain on household financial resources. For example, these events can include a disruption in income, due to layoff or sickness; or the breakdown of household use assets such as a furnace or a car. Most financial planners recommend that an investment program should include the accumulation of an emergency fund, that is, liquid assets which can be accessed quickly in case of immediate need (Kapoor, Dlabay, & Hughes, 1996).

This paper focuses on family type and the general adequacy of household emergency fund holdings. Specifically, this paper examines what effect household composition has on the probability of meeting a three-month guideline of adequate emergency fund holdings. Other factors pertaining to the household head such as age, education and race, are controlled for as they have been found to affect this probability in previous studies regarding the adequacy of household emergency fund holdings. In addition to variables characterizing the household head, variables measuring income, debt, saving motive, risk tolerance and income certainty were included as they were hypothesized to affect a household's asset accumulation behavior with respect to emergency fund reserves.

Concepts

Definition of Emergency Fund Holdings

A study of the literature regarding emergency fund holdings reveals that there is no universal consensus on either the definition or the standard of adequacy for household emergency funds. Johnson and Widdows (1985) define emergency funds as financial holdings which are available to cover spending, in the event of an emergency (income disruption) without drastically adjusting the household's current level of living. They outline three measure of emergency fund holdings which vary in degree of liquidity: 1) quick -- assets held in savings, checking and money market accounts, 2) intermediate -- quick assets plus CD's and savings certificates, and 3) comprehensive -- intermediate assets plus the value of stocks and bonds.

Guidelines for Adequacy

Guidelines for the adequacy of emergency funds varies anywhere from two or three months to a year's worth of living expenses (Garman & Forgue, 1994; Dunnan, 1994). Household emergency fund research uses both measures of monthly expenditure and/or income in the assessment and recent studies have tended to adopt a three-month guideline to denote adequacy (Hanna & Wang, 1995, Chang, 1995, Chang & Huston, 1995). This study uses the quick measure of emergency fund holdings and a three-month income reserve is designated to be adequate.

Method

Data and Sample

Data were selected from the 3,906 households in the 1992 Survey of Consumer Finances. The 3889 households with positive income were included in this analysis. In order to use all information from the five implicates included in this data set, the RII technique was employed as outlined in Montalto & Sung (1996).

Measurement of Variables

The dependent variable in this study is the probability of adequacy of household emergency fund holdings. The dummy variable is measured as MEET=1 if a household met the criteria of three-months of income held in liquid assets and MEET=0 if the criteria were not satisfied.

The independent variables included in the analysis which are used to predict the probability of meeting the 3-month emergency fund guideline include both variables related to the household head (age, education, and race) and variables which apply to the household unit (family income, debt, and family type). Age and education are measured by number of years. Race has two categorizations: Black and Non-Black, if the head is a race other than Black. Income is measured as gross income from all sources for a one year period and debt is measured as the total outstanding debt a household unit is carrying at the time of the interview.

Variables which provide insight into possible influences upon the managerial subsystem within the household are saving motive, risk tolerance and income certainty. Saving motive has two categories: one which indicates if emergencies are the primary saving motive and another category for which some other motive was the primary impetus for saving. To measure the household's willingness to assume financial risk, a variable was with two categories was created: one in which the household indicated no financial risk and the other capturing those households which were willing to assume at least some financial risk. Income certainty was measured by whether the household indicated they had a good idea of their next year's income or not.

The family type variables are not directly available in the data set, but were constructed by separating households into one of seven categories of family composition. The family type variable was constructed using 12 of the household listing variables which describe the relationship of each member to the respondent. There are 23 relationships which are available for coding purposes. Nuclear families consist of the respondent, the spouse (or partner) and all children (own, step and foster). Single-parent families include the respondent and all children living in the household (own, step and foster). The couple-only family is comprised of the respondent and spouse (or partner). Single person households were divided into two categories: respondents who were employed and respondents who were not employed. Other households capture all combinations of living arrangements which do not satisfy the criteria established for the four family types outlined above. These "other", or non-traditional families were also separated into two classes based on household size: an "other" category which had 4 or more persons and an "other" category with 2 or 3 household members.

The first four classifications of family type (nuclear, single parent, couple-only and single person) are considered to be primary economic units (PEU) by the SCF. A PEU consists of all the people listed in the household listing who are financially dependent on the respondent of the family unit; where the family unit is defined as a group of persons living in the same housing unit who are related to each other by blood, marriage, or adoption. Couples who are living as married are treated as if they were married. There was no gender restriction imposed. A housing unit is defined as a one-family house or half of a two family house, or an apartment or flat in an apartment house or other building, or a trailer or mobile home (with cooking facilities), or living quarters in back of stores, over garages, etc., or a rooming house. The survey does not sample institutions such as old people's homes, sanitoriums, convents, military bases, dormitories, etc., which contain ten or more unrelated families. The "other" classification may or may not contain PEU's.

Method of Analysis

Logistic regression is used to estimate coefficients of variables hypothesized to affect the household's probability of having adequate emergency fund holdings. The coefficient estimates resulting from a logistic regression in SAS provide estimates which are stated in terms of the natural logarithm of the odds. These estimates are then used to calculate predicted probabilities, the effects of significant independent variables, using mean values.

Results

Descriptive Statistics

Of all the households included in the analysis, 23% met the 3-month emergency fund guideline. On average, household heads were about 48 old, had almost 13 years of formal education, and the majority of heads were of a race other than Black. In terms of family composition, the lowest proportion of families (9%) were single-parent households and the largest proportion (21%) were composed of 2 or 3 members which were did not fit the criteria for nuclear, single-parent, or couple-only arrangements. The majority of all households did not indicate emergencies as a primary saving motive but did indicate that they had a good idea of their income for the next year. About half of the families in this study indicated that they were not willing to take any financial risk.

Regression Results

Results from the logistic regression are summarized in Table 1.

Table 1
Logistic Regression Results

Variable	Coefficient	p-value
Household Income	-1.544E-7	0.0099
Household Debt	1.096E-8	0.4622
Age of head	0.0457	0.0000
Education of head	0.123	0.0000
Black (race of head)	-0.9812	0.0000
Single Parent	Reference Category	
Nuclear	0.3324	0.1284
Couple-Only	0.5326	0.0164
Single - employed	0.4444	0.0524
Single - not employed	0.4544	0.0521
Other - 4 or more	-0.0034	0.9891
Other - 2 or 3	0.4087	0.0527
Save for emergencies	0.1936	0.0409
Risk Tolerance	0.6072	0.0000
Income Certainty	0.0263	0.7719
Intercept	-5.74	0.0000

Six of the 14 variables included in the model have significant coefficient estimates at the 0.01 level of significance, five are statistically significant at the 0.05 level of significance. Age and education of the household head has a positive effect on the probability of the household having an adequate emergency fund. Household heads who are Black are less likely to meet the 3-month guideline for emergency fund than are heads who are not Black. Compared to single-parent households neither Nuclear or other households with 4 or more members were significantly different. However, all remaining household types were more likely to meet the 3-month guideline compared to single parent families. Households which are willing to accept at least some degree of financial risk and households which save for emergencies are more likely to meet the 3-month emergency fund guideline.

Effects of Variables

Age was found to have a positive effect on the probability that a household will have adequate emergency fund holdings, *ceteris paribus*. On average, for each year this probability increases by almost one percent. For example, a household which is headed by a 50 year old has a 25% greater likelihood of meeting the 3-month guideline of emergency funds than does a household headed by a 25 year old. Similarly, households which are headed by a more educated respondent are also more likely to have adequate emergency fund holdings, holding all other variables in the analysis constant. For example, a household head with a 4-year college degree is almost 10% more likely to have adequate emergency reserves compared to a household headed by a high school (only) graduate. Finally, in terms of characteristics related specifically to the household head, households with a Black head are more than twice as likely not to meet the 3-month guideline for emergency funds compared to household heads from another race, independent of the effects from other variables included in the model.

Households which are willing to accept at least some financial risk are about 1½ times more likely to have an adequate emergency fund compared to households which are not willing to accept any financial risk at all, again, holding all other variables constant. Households which indicate primary saving motive as emergency funds have only about a 3% greater probability of meeting the 3-month guideline. And, although the coefficient on income is statistically significant the effect, when calculated at mean values, is extremely negligible and therefore is not a substantial factor in determining household emergency fund adequacy behavior.

According to the predicted probabilities, calculated at mean values, couple only, single, and other households with 2 or 3 members are all about two times more likely to meet the 3-month guideline compared to single parent households.

Discussion and Conclusion

The results from this analysis suggest that the household's which have the greatest probability of having adequate emergency fund holdings have a non-Black, relatively old and educated head, and are from a couple only household with at least some willingness

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to accept financial risk. Race, age and education of the household head appear to be important factors in determining whether a household will meet the 3-month emergency fund guideline. These findings are consistent with previous studies regarding emergency fund reserves (Chang & Huston, 1995; Chang, 1995; Hanna & Wang, 1995).

The results for risk tolerance are rather interesting. It appears that households which are willing to take at least some financial risk are more likely to have adequate emergency fund holdings as compared to those households which are not willing to take any financial risk. One may expect that households not willing to take financial risk would have more of their assets in liquid form. The results may suggest that a household is not willing to take financial risk until they have a comfortable level of liquid assets. Most financial planners recommend starting an investment program with the accumulation of an emergency fund (Kapoor, Dlabay, & Hughes, 1996).

Why do Black-headed households tend to have a lower probability of having adequate emergency funds than household's headed by someone from another race, holding other factors such as income and education constant? Perhaps, as Chang & Huston (1995) suggest, these families have a lower lifetime income, which is not controlled for in these analyses, and therefore are rational in their behavior to not have adequate emergency funds as defined in this study. Perhaps these families have other alternatives to select from when managing the risk of unexpected events. Or, perhaps there is some other intervening variable that was not controlled for which is responsible for the effect produced by this race variable. Because this result is so consistent across these emergency fund studies, it does seem that further investigation into this matter is warranted.

According to these results, family composition certainly seems to play an important role in the probability of a household having adequate emergency reserves. On average only about one of every 5 households in this sample had an adequate emergency reserve. Given the current economic climate these findings are rather disturbing. Most households in this sample would have much less than a 3-month recovery period if they were to experience a loss of income. It appears that the creation of family types within the data set has been beneficial in this case. Many social policy programs are designed and delivered based on household composition and the results from this study are couched within a compatible format for policy makers to examine. Financial planners and counselors may also benefit from having results in this form. Family composition, or family type, can provide additional insight into the potential vulnerabilities certain households are most susceptible to. For example, these results suggest that single-parent, financially risk averse families with Black, relatively young and uneducated heads are the households which have the highest probability of not having adequate emergency reserves. The strong relationship between education and the probability of having adequate emergency funds suggests that consumer education programs may be helpful in boosting the number of households which have adequate emergency fund holdings.

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Consumer Interests Annual *Volume 43, 1997*

Are the Floors Less "Sticky" at Home? Pay Equity in Home-Based Work

Women home-based business owners earn 37% of what their male counterparts earn, as compared to the 72 cents to the dollar in the traditional labor market. The percent female in the occupation one works accounts for a large proportion of the pay gap in earnings.

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The "glass ceiling" metaphor has been utilized the past decade to describe the plight of women fighting barriers to advancement which could lead to higher paying incomes. Yet, this analogy does not represent the greater proportion of women who are trapped in the mire of low-wage, low-mobility jobs, or the "sticky floor" syndrome (Berheide, 1992). One way women are choosing to "detach" themselves, from this floor of blocked mobility, is self-employment (Reskin and Padavic, 1994). Therefore, studying the success of women in home-based business, and the determinants of that success, are essential to determine if the offensive move of self-employment detaches women from the "sticky floor" found in the traditional labor market. The goals of this study are to ascertain the determinants of success (income) for home-based business owners and assess if these determinants are different for men and women.

Theory

Literature suggests several elements to explain gender inequality in the area of income, but little is known as to their explanatory power for the home-based business owner. Economists have attributed the pay gap to productivity differences in men and women. Since productivity is not easy to measure proxies for its measurement have been used, such as education, experience, and time spent at work. The analysis of these variables has been the cornerstone of pay equity research using the human capital theory (Becker, 1993).

Social psychological research on equity processes provides another element to help explain income inequality between the sexes. Equity theory "examines how individuals determine the fairness of ratios of inputs to outcomes, such as what constitutes a fair reward for a given task or what constitutes fair effort for a given reward," (Bielby and Bielby, 1988, p.1034). Experimental studies testing this theory found that women had significantly lower career-entry and career peak pay expectations in comparison to males (Major and Konar, 1984). Bielby and Bielby (1988) suggest that "structural features of workplaces might reinforce the same processes outside the laboratory." Most men and women work in sex-segregated jobs. Equity theory suggests that when women lack information about the structure in which men are paid, they are willing to work for less.

Methodology

Methodology

The data are from a nine state research project on home-based employment (Stafford, Winter, Duncan & Genalo, 1992). In order to meet the goals of this study the following methods will be utilized. A segregation index will be calculated to determine the amount of segregation evident in home-based work. Ordinary least squares regression will be utilized to ascertain the determinants of success for the male and female business owners. A Chow test (Maddala, 1992) and a full interaction model will assess if the determinants of income are the same for men and women, and finally a decomposition using the regression results will decompose the sex gap in earnings.

Model and Hypothesis

The dependent variable is the natural logarithm of gross business income. The semilogarithmic specification has become the standard in earnings models as it reduces the right-side skew of the income distribution.

The measure of human capital (years of education, number of years in reported home-based business, and number of hours worked in the past year) is hypothesized to be positively associated with

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income. An additional indicator of human capital, if the owner has another job, proxies for their "employability" outside the home. This variable is a positive indicator of human capital, but is hypothesized to be negatively associated with income for it takes time and effort away for the home-based business endeavor.

The social forces variable, marriage, has been shown to impact the amount people earn. Marriage is positively associated with income for men and negatively so for women (O'Neill and Polachek, 1993). The urban/rural income dichotomy has been shown to be significant in prior research of home-based businesses, with businesses located in the urban areas making greater income (Olson, 1994). The number of dependents has been used as a proxy for "stability" is traditional human capital earnings models with children increasing stability for men and therefore increasing their income and creating "instability" for women, in turn decreasing their income. Research comparing entrepreneurs and wage/salaried workers found these relationships to be true for both types of workers with the "returns " to children being doubled for self-employed men, as compared to wage/salary men, and the "penalty" for children to be twice as large for self-employed women (Robinson and Sexton, 1994).

A key variable of interest, percent female in the occupation the respondent works, is an indicator of sex segregation in the workplace. This variable is created by recording the percent female calculated by the Census Bureau for each job title reported by the respondent. Reskin and Padavic (1994) state that job segregation is the single most important cause of the pay gap between the sexes. Previous research conducted on home-based business owners shows that those operating in a female-dominated occupations have significantly reduced net income for both females and males (Walker and Heck, 1995).

Use of a sales representative is a proxy for size. It is likely that only those companies with a sizable income can afford to have a sales representative. It is also hypothesized that women not burdened by excessive household chores can focus energy on paid employment. Therefore, those who hire help for household chores can earn a greater income. The model also controls for other income coming into the household, predicting that the greater the other income, the less income that will be generated by the home-based business.

Limitations

One must be careful in generalizing these findings beyond the nine-state area in which this study was conducted. Also, the data set does not ask the respondent to list and prioritize the factors most important in the ownership of a home-based business. Some studies say there is a pay gap because women are not motivated by income, but motivated to work by other factors.

Results

The segregation index (Reskin and Padavic, 1994) for this sample of home-based business owners is 54.8, meaning that 54.8 percent of the female home-based business owners would have to shift to mostly male occupations to achieve occupational-level integration. This index value is strikingly similar to the 1990 index of occupational segregation of 57 for wage and salary workers (Reskin, 1993). This finding runs counter to the supposition that women use self-employment to seek opportunities not available within the traditional labor market which is highly sex segregated.

Women and men home-based business owners are garnering very different mean incomes (Table 1). Yet, in assessing the descriptive information about the women and the men (Table 1, column 1 and 2), what seems apparent is the similarity the two groups exhibit. One striking difference is that women work in occupations which employ about 70% female employees, while men work in occupations that employ approximately 19% female. This statistic confirms the information that, in the work realm of home-based business, women are still working in occupations dominated by women.

The next step is to answer which variables are significantly associated with the owner's gross business income? Five variables were significant for explaining the log of gross business income for both the men and the women (columns 3 and 4, Table 1). The two that were positively associated with income were the number of hours worked per year and whether the home-based owner lived in an urban area. The three variables that were negatively associated with income, for both groups, were: if the owner had another job, the amount of additional income beyond the income from the home-based business coming into the household, and the % female in the home-based work occupation. For women, use of a sale representative and hiring help for household chores also significantly increased income. For men, education was an additional significant variable.

Women are penalized less severely for having an additional job, but since their income is not as high, that is not surprising. Women, on the other hand, are rewarded more highly for living in an urban area than their male counterparts.

Although working in a predominantly female occupation negatively impacts earnings for both men and women as expected, the additional penalty for women is large, almost twice that of men.

Women do have some factors that can help them when compared to other women. Using a sales representative and hiring help for household chores are both associated with higher incomes compared to those women who do not use these variables. Men, on the other hand, can increase their income as compared to other men by obtaining additional education.

The results of a Chow test $F = 2.79_{(13,651)}$; significant at the .005 level (Maddala, 1992) showed the two earnings models were significantly different from each other. A full interaction model found only two variables to be significantly different from each other between the models, the % female in occupations variable and the hire for household chores variable. How do these factors impact the predicted wages of men and women home-based business owner? The data show the average women's home-based gross business income is approximately one-third that of mens' ($23,147 versus $69,048). The predicted wage ratios between women and men home-based business owners are similar to the mean income ratios, with women making 37% of what men earn ($8,103 versus $22,030 per year in gross business income; anti-log of predicted income). These figures are in stark contrast to the recent convergence in the gender gap in wages cited by O'Neill and Polachek (1993), stating that the female-to-male earnings ratio was increasing reaching close to 72% in 1990 for full-time year-round workers.

The question that remains is what factors account for the pay gap? Results of a decomposition of the models from Table 1 overwhelmingly show the % female in the occupation accounts for 56% to 32% of

Table 1

Descriptives and Regression Coefficients Predicting Natural Log of Gross Income of Home-Based Business Owners by Gender

	Mean Values or Proportions		**Regression Coefficients**	
Variables	Women	Men	Women	Men
Human Capital				
Education	13.837	13.570	.028158	.074794**
Length in job ★	8.319	9.941	.001645	.006466
Hours/year ★	1624.514	1970.816	.000444655***	.000403068***
Other Job by Owner ✔	.23	.32	-.346455**	-.479302***
Social Forces				
Married	.82	.83	-.125955	.160425
Urban	.40	.41	.387105***	.218457*
# of Dependents ★	.997	.785	.009558	.032251
% Female in Occ★✚	.693	.186	-1.614892***	-.912048***
Use a Sales rep.	.02	.03	1.17888**	.434252
Hire for HH Chores ✚	.14	.16	.847134***	.172734
Control				
Age of HBB Owner	42.549	43.483	-.004990	.004771
Other Income ★	29127.724	21282.772	-.00000759**	-.000071954*
(Constant)			9.311076***	8.566556***
Adjusted R^2			.398	.285
Gross Business Inc.	23,147.15	69,048.01		
Log Gross Bus. Inc.	9.01	10.46		
n	288	391		

★= T-test comparing for equality of means significant at .01 level
✔ = Chi-Square Significantly different comparing proportions at .05 level
* p<.10 **p<.05 ***p<.01 (using two-tailed tests)
✚ = significant in full interaction model
~normal probability plot indicates assumption of normality met, diagnostic plot indicates no heteroscedasticity

the pay gap in earning explained by differences in means. This finding shows this variable to be even more important in explaining the pay gap for home-based income as compared to its explanatory power for other groups. Kilbourne, England, and Beron (1994) found that percent female in occupation explained between 3.6 and 12.2 percent of the pay gap between young white men and women.

Conclusions

In conclusion, "are the floors more sticky at home," or are women stuck in low-mobility/low-paying jobs as home-based business owners? There appears to be overwhelming evidence for a resounding "yes." The segregation index for home-based employment is a little better than that of the traditional labor market. When determining the factors which affect the income of home-based businesses it appears that women are even more severely punished for being in traditionally female occupations as compared to their non-home-based counterparts. In the decomposition procedure, it was further confirmed that it was the difference in the means of the % of female in the occupations, which accounted for the greatest percentage of the pay gap. Finally, it was calculated that women home-based business owners earned 37% of what men earn, as compared to the 72 cents to the dollar in the traditional labor market. I do not think the floor is more sticky at home, it is down right *quicksand!!*

The question remains as to why? It is perceived that income through self-employment is limitless, yet why does this self-employed sample of women exhibit more restraints on income when compared to their traditional labor market counterparts? Why do women home-based business owners select low paying occupations? On the other hand, why are the occupations which are predominantly conducted by females devalued by society?

These questions remain, but this study has added to the knowledge of home-based business earning and gender differences. This study has found that women will find home-based work income to be low-paying unless they choose occupations which garner higher wages, such as those which are predominantly held by men.

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Endnote

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Consumer Interest Annual *Volume 43, 1997*

How Do We Value Fat? The Case of Ground Beef

This study investigates consumer willingness to pay for saturated fat. Fat intakes through a relatively homogeneous source are analyzed using two nationally representative food intake surveys. It appears as though consumers are willing to pay to reduce fat, and fat is reduced as household incomes increase.

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Introduction

A number of studies have found that consumers reduced their demand for certain foods high in saturated fat during the 1980s (Eales and Unnevehr, 1988; Kim and Chern, 1993; Wang and Jensen, 1994). Consumers appear to have reacted to public and private information that effectively made saturated fat a stigmatized nutrient.

Traditional nutrient valuation analysis is explored. An attempt is made to reduce variation in food price caused by non-nutrient factors in order to provide a more precise estimate of willingness to pay for saturated fat. Data from three different national food surveys collected within a ten year time period are included to explore possible changes in the willingness to pay for saturated fat in food.

Background

Previous attempts to uncover the real effect food nutrients have upon how consumers value food has drawn on characteristic theory (Eastwood, 1986) and the technique of hedonic analysis. People are assumed to weigh the component food nutrients when deciding what they are willing to pay for a food item. The hedonic technique tests how much variation in food price is due to variation in nutrient content. Capps and Schmitz (1991), in a comparison of analyses using the 1977 Nationwide Food Consumption Survey (NFCS), find the hedonic price per gram of fat to be both negative (-1.95 cents) and positive (0.25 cents) depending on the season in which the data was collected. The power of hedonic analysis to predict how much a consumer is willing to pay for the addition or subtraction of a food nutrient is reduced by the complexities of the food market. Foods differ by a number of characteristics including taste, convenience, appearance, or familiarity that affect the decision to buy. In addition, price might have as much to do with supply as it does with demand. For example, despite being limited in taste, convenience, and especially appearance, escargot is priced much higher than soy grits (another protein food). Rather than modeling the effect nutrients have upon prices in the entire food system, a more precise estimate of willingness to pay for a component food nutrient may be possible if some of the noise caused by other sources of price variation is eliminated.

Choice of Food Product

Red meat has consistently accounted for over 33 percent of the saturated fat in the U.S. food supply (Raper, Zizza, and Rourke, 1992). Despite findings that fat content is associated with decreased willingness to pay for beef (Wang et al., 1995), the most expensive cuts of meat are often the most tender - largely a result of high intramuscular fat. Differences in supply and flavor may account for much of the variation of meat pricing.

Rather than risk the inaccuracy of nutrient valuation when comparing stew meat to fillet, ground beef is chosen as a more ideal food from which to determine whether and to what extent consumers are willing to pay for the removal of fat. Ground beef essentially differs only in content of fat and lean. Since millions of tons of grass-fed lean ground beef are imported from Australia to complement the supply of grain-fed American ground beef, supply of both lean and higher-fat ground beef is abundant. Both are easy to prepare, free of brand names, and contain essentially the same micronutrient (vitamin and mineral) content.

Price Estimation

Finding a price for a nutrient using the hedonic model involves estimating an equation that captures the variation in price that coincides with variation in nutrient content. Such an equation would look like:

$$P_F = \alpha_1 + B_1N_{F1} + B_2N_{F2} + \ldots + B_nN_{Fn} \qquad (1)$$

where price is viewed as a function of the nutrients (N) each unit of food (F) contains. Normally, these implicit prices are estimated for each household and a demand system created for each nutrient that includes these implicit prices.

Since the only major difference in the nutrient content of ground beef is fat content, we can bypass the complete hedonic price estimation procedure. A ratio of total fat (grams of fat/grams of protein) can be created as a measure of leanness. Quantities of fat and lean are calculated at cooked weight. Therefore, fat lost in the cooking process does not enter into the price equation. It is theorized that demand for leaner meat, represented by this ratio (R), is influenced by price (P), income (I), and demographic characteristics (D) for family I:

$$R_i = \alpha_i + B_1P_i + B_2I_i + B_3D_i \qquad (2)$$

A price difference between lean and fatty ground beef will be reflected in the coefficient for P. A positive coefficient will mean that households are willing to pay more to eat ground beef with a higher fat content. A positive coefficient for I will imply that as household income increases so does the preference for higher fat ground beef. Positive coefficients for demographic characteristics will imply that a preference shift exists for households within that category toward consumption of higher-fat ground beef.

While this estimation procedure is useful when identifying which households prefer leaner and fattier meat independent of price and income, interpreting coefficients can be difficult. The ratio may be more easily envisioned as the "lean percentage," though some fat is lost in the cooking process. The coefficient for price can be seen as the difference in price that one could expect between lean and regular ground beef when shopping during the survey period.

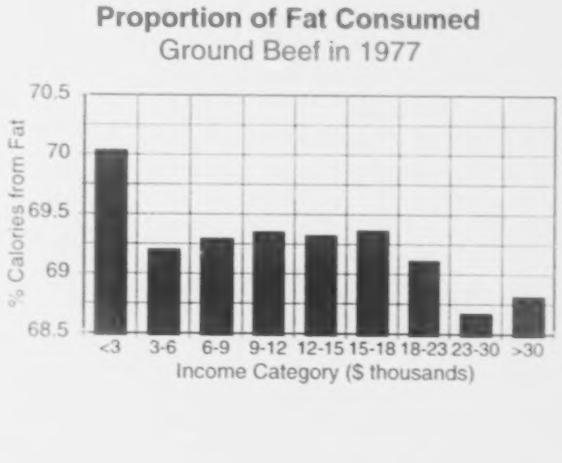
Data

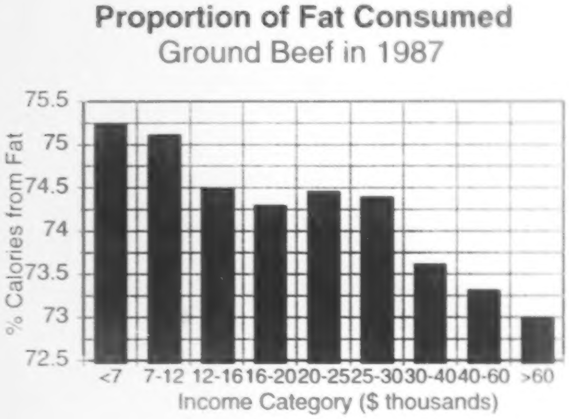
The 1977-78 and 1987-88 household portion of the Nationwide Food Consumption Survey contain data on quantity and money value paid for foods from which price estimates may be obtained. Households that did not consume ground beef during the study period were excluded. Of the 4,495 households surveyed in the 1987-88 NFCS, 3,124 are retained in this analysis, as are 2,425 of the approximately 3,302 households in the 1977-78 NFCS.

Since vitamin and mineral content is assumed constant, information on micronutrient content is not included. Trace carbohydrates found in some ground beef are also excluded since quantities are nearly immeasurable. Data on region, income, urbanization, and race of families are included as possible determinants of nutrient preference. Education is not included due to the difficulty in assigning a value of education to data that contain race and nutrient content in the 1987-88 NFCS. Race and ethnicity are broken down into three groups--blacks, whites, and others. Regions included are Northeast, Midwest, West, and South. Household urbanization is segmented into urban, suburban, and non-metropolitan. The log of income is used as a more accurate representation of the non-linear relationship hypothesized to exist between income and consumption of relatively less fatty ground beef.

Results

Price is found to vary negatively with the ratio of fat to protein. Leaner meat is more expensive. More interestingly, a number of characteristics aside from price significantly influence the demand for leaner ground beef. As household incomes increase, the proportion of lean in ground beef demanded rises in both the 1977-78 and 1987-88 surveys[2]. The following graphs illustrate this pattern:





Although the lowest-income households eat the most fat and the wealthiest eat the least fat as a proportion of calories from ground beef in both surveys, data show the inverse relationship between income and leanness to be more pronounced in the 1987-88 NFCS. Suburban households are found to prefer fattier meat no more or less than urban households. In the 1977-78 NFCS, non-metropolitan (mainly rural) households are found to have a preference for a greater proportion of fat, although this preference is not significant in the 1987-88 survey.

There appears to be a strong preference for fattier ground beef in the South. Northeasterners appear to have the highest preference for leaner meat. Whites have a significantly stronger preference for leaner ground beef than blacks. This preference difference appears to have risen between the 1977-78 and 1987-88 surveys. Members of other races and ethnicities also had a significantly weaker preference for fat than blacks in the 1987-88 NFCS.

Table 1.
Demand for higher fat ground beef

Variables	1977-78	1987-88
Intercept	1.195** (0.013)	1.744** (0.035)
Price	-0.076** (0.007)	-0.112** (0.007)
Log Income	-0.011** (0.003)	-0.023** (0.004)
Suburban (reference Urban)	0.006 (0.008)	-0.004 (0.008)
Non-metropolitan	0.026** (0.008)	0.010 (0.009)
Northeast (reference South)	-0.063** (0.008)	-0.038** (0.009)
Midwest	-0.024** (0.008)	-0.039** (0.008)
West	-0.029** (0.009)	-0.028** (0.009)
White (reference Black)	-0.028** (0.010)	-0.067** (0.011)

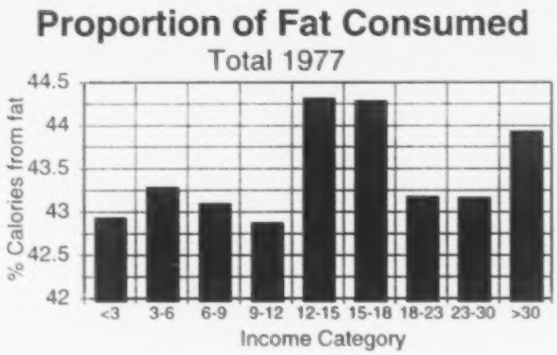
* indicates 95 percent confidence interval

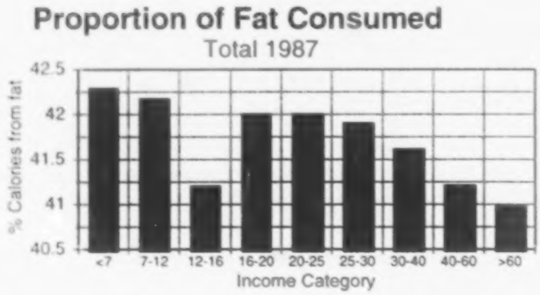
** indicates 99 percent confidence interval

Conclusion

In both survey periods consumers were willing to pay to reduce the fat content in their ground beef. In addition, higher-income households bought ground beef that was leaner. In fact, descriptive data show clearly that in 1987-88 lean content increased as incomes increased.

In essence, the significant coefficient for price makes leanness a normal good. As incomes increase, families want leaner foods and are willing to pay more for them. As information about the relationship between dietary fat and disease has entered the food buying decision, higher-fat foods will inevitably become less desirable. The following graphs highlight this relationship between total fat consumption and income:





Overall fat consumption appears to follow the same pattern as fat consumption from ground beef over the ten year period. In the 1987-88 survey, the highest-income households ate the least fat and the lowest-income the most fat as a percentage of calories. Despite a dip among those with a $12 to $16 thousand income, fat as a percentage of calories declines as household earnings rise.

Total fat in the U.S. food supply increase from 156 grams per person per day in 1977 to 165 grams by 1990 (Putnam and Allshouse, 1993). Saturated fat consumption increased by one gram during the same period. If the nutrient content of the food system does not change, nutrition education will decrease demand for less-favored nutrients - changing the their distribution but not improving overall health. These results evidence this pattern.

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Endnotes

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2. A logit analysis was also performed using the purchase/non-purchase of highest-fat ground beef as the dichotomous dependent variable. Data from 1977-78, 1987-88, and from the 1994 Continuing Survey of Food Intakes by Individuals showed the probability of buying highest-fat ground beef decreasing with income significantly in all three surveys.

Consumer Interests Annual *Volume 43, 1997*

Human Capital Enhancing-Expenditures: A Comparison of Female-Headed and Married-Couple Households

This study attempted to identify expenditures of contemporary U.S. households on human capital investment and to compare human capital expenditures of female headed households with those of married-couple households. The major results of this study indicated that all other things equal, female-headed households spent less dollars on human capital enhancement than married-couple did. Significant factors that affected human capital expenditures were income, age, members in college, females 6-17, males 6-17, males >65, public assistance income, social security income, education, home ownership, quarter, and interview month. Based on these empirical findings, conclusions and implications of this study were discussed.

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Investment for future consumption or future earnings could be the determinant of future well-being of U.S. families. According to human capital theory, the greater the available human capital that individuals bring to the search for employment, the more likely they are to locate work and the more able they are to command jobs with high salaries and benefits (Becker, 1975).

Since the beginning of the 1970s, whereas the proportion of traditional two-parent families has been in decline, single-parent, predominantly female-headed families have been increasingly prevalent family form in the United States. In 1990, female-headed 28 percent of all households (U.S. Bureau of the Census, 1992). Specially, since the female-headed households has been recognized as the fastest growing segment of the poverty population, it is necessary for these female-headed households to invest in education, develop specific skills, or acquire experience, primarily in the labor force.

There have been some studies that investigated differences in expenditures patterns of married-couple and female-headed household for major expenditure categories (Horton & Hafstrom, 1985; Abdel-Ghany & Schwenk, 1993). However, little research has been devoted to the human capital related expenditures of U.S. families. In as much as no study has investigated how human capital could be developed through household economic activities such as consumption behavior, and little is known about the differences in human capital investment expenditure behavior between female-headed and married-couple households, this study could be a benchmark in terms of the application of the concept of human capital to the area of consumption expenditures.

The essential purpose of this study is to identify human capital investment expenditures of female-headed households by comparing similarities and differences in human capital investment expenditures of married-couple households. A second objective is to determine the effect of household type on human capital enhancement expenditures among the U.S. families, while taking socioeconomic and other demographic characteristics into account.

Literature Review

Schultz (1961) explained that human resources have such qualitative components as skills, knowledge, and similar attributes that affect particular human capabilities to do productive work. Schultz (1961) stated that the quality of human effort can be greatly improved by appropriate expenditures. Schultz (1961) considered five major categories of important activities that improve human capabilities: a) formal education at the elementary, secondary, and higher levels; b) on-the-job training, including old-style apprenticeship organized by firms; c) study programs for adults that are not organized by firms; d) health facilities and services, including all expenditures that affect the life expectancy, strength and stamina, and the vigor and vitality of a people; and e) migration of individuals and families to adjust to changing job opportunities.

Becker (1975) explained that individuals develop characteristics that endow them with value and that this accumulated human capital makes them more employable. Becker (1975) described many forms of human capital investment, including schooling, on-the-job training, medical care, migration, and searching for information about prices and incomes.

In previous research on expenditure behavior, two studies compared the differences in consumption patterns between the single- and two-parent families (Horton & Hafstrom, 1985; Abdel-Ghany & Schwenk, 1993). Horton and Hafstrom (1985) investigated differences in consumption expenditures between single female-headed and two-parent families. The major findings of this study was that only the income elasticities for shelter differed significantly between these two groups.

Abdel-Ghany and Schwenk (1993) also examined differences in consumption patterns between single-parent and two-parent families for major expenditure categories. The major hypothesis of this study was that there was different consumption patterns for major expenditure categories in single-parent and two-parent families. Using the Chow test to test for the equality of the entire set of single-parent and two-parent regression coefficients, it was found that with the exception of shelter expenditures, their consumption patterns are significantly different between the two groups.

Conceptual Framework

Model

The present study adapted a theoretical model from the management system framework (Deacon & Firebaugh, 1981). The model can be mathematically expressed as the following (Heck, 1983):

$$S= s\,(M_i ;\; g_1\,(D_{tb}),\; g_j) \quad (1)$$

Where S=outputs
M_i=family managerial activities, i=1, . . . , n
g_1=a goal as an input
g_j=fixed input levels, j = 2. . . . , m
D_{tb}=characteristics (b = 1, . . . , k) of the t^{th} family member (t = 1, . . . , s)

The equation (1) specifies that output (S) are a function of a set of managerial activities (M_i) and a set of inputs (g_1, g_j). In this model, a goal (g_1), which is used as an input, can be influenced by a set of family socioeconomic and demographic characteristics (D_{tb}). Fixed input levels (g_j) represent value-laden goals that are given as inputs into the managerial system. Since the management system theory suggests that the levels of satisfaction of households result from the family's managerial activities (M_i). Within this framework, the decision-making on major family expenditures, including human capital expenditures, is conceptually considered as a family managerial activity (M_i).

The family system theory suggests that output is viewed as a function of the inputs and the throughput engaged in by the family. However, assuming that more human capital-enhancing expenditures could increase both the quantity and quality of family output (S), this study empirically measures only the relationship between input (g_1) and throughput(M_i).

Method

Data

Data source used in this study are 1990-91 Consumer Expenditure Survey (CES) which are collected by Bureau of Labor statistics (U.S. Department of Labor, 1992). The CES data set is a quarterly interview panel survey in which each household is interviewed every three months for each of five consecutive quarters. The CES data set provides very detailed information on household expenditures and household demographic characteristics at the national level.

Sample

For the present study, with the issue of the importance of human capital investment for youth, the sample was restricted to families with at least one child under age 18. Therefore, the sample of this study included both married-couple households with children and single female-headed households with children. A profile of the economic and demographic profiles for two sub-samples can be found in Table 1.

Empirical Model

The variables included in the statistical analysis were based on theoretical considerations as well as on the results of past research. The dependent variable measures total dollar expenditures on human capital-enhancing categories per quarter. As the explanatory variables, total household expenditures as a proxy for permanent income, age, number of members in enrolled college, and age-sex compositions are included in empirical analyses. Further, a set of dummy variables including family type, education, race, housing tenure, occupation, region, and health insurance type are also included in the analysis. Additionally, the dummy variables for quarter and interview month are included in the empirical model to observe the effect of seasonality on human capital-enhancing expenditures during the 1990-91 period. That is, the quarter and interview month are not explanatory variables, but are control variables to control for time variations due to having five different quarters included in the dataset.

Table 1
Socioeconomic and Demographic Profiles for Two Sub-Samples

Variables	Female-Headed (N=1,391)	Married-Couple (N=7,225)
	Mean(Std.Dev)	**Mean (Std.Dev)**
Totexp.	$4,491.6(3,856)	$9,082.6(6,065)
Age	34.7 (8.4)	37.2 (8.3)
College	0.1 (0.3)	0.1 (0.4)
	Percent(Freq)	**Percent (Freq)**
Education of Head		
Less than high	24.2 (337)	15.2 (1096)
High-school	38.6 (537)	31.3 (2265)
Some college	25.7 (358)	23.1 (1670)
College grad.	6.8 (94)	15.6 (1124)
Advanced deg.	4.7 (65)	14.8 (1070)
Race of Head		
White	54.5 (758)	79.3 (5731)
Afro American	31.9 (443)	7.3 (531)
Asian	3.0 (42)	4.6 (329)
Native American	0.8 (11)	0.3 (25)
Hispanic	9.8 (136)	8.4 (609)
Housing Tenure		
Own w/ mort.	24.4 (340)	64.4 (4653)
Own w/o mort.	8.1 (112)	9.1 (654)
Rent	67.5 (939)	26.5 (1918)
Occupation of Head		
Prof./Managerial	46.9 (653)	47.1 (3402)
Service occu.	12.8 (178)	5.5 (399)
Laborer	12.1 (168)	34.8 (2513)
Self-employed	1.9 (26)	7.7 (558)
Retired	0.7 (10)	1.2 (87)
Non-working	25.6 (356)	3.7 (266)
Region		
Urban northeast	19.9 (227)	18.6 (1342)
Urban midwest	23.9 (338)	22.1 (1600)
Urban west	21.1 (294)	21.1 (1527)
Urban south	28.8 (400)	25.0 (1809)
Rural	6.3 (87)	13.1 (947)

Analytical Method

Tobit analysis is employed for the model estimation because of a significant fraction of zero observation for the dependent variable. This regression method utilizes maximum likelihood estimation (M.L.E.) on a single equation when a set of continuous observations on a dependent variable is truncated. The general form of the tobit model is specified as follows:

$$y^* = \beta X_i + \epsilon_i , \quad \epsilon_i \sim N\ (0,\ \sigma^2) \qquad (2)$$

where y^* is the i^{th} household's optimal expenditures subject to household budget constraint (Chiang, 1994), β is a vector of unknown coefficient, X_i is a vector of explanatory variables, and ϵ_i is a vector of independently and normally distributed error terms with mean zero and variance, σ^2.

Using the LIFEREG procedure in SAS software package, iterative methods were used to obtain the maximum likelihood estimates of β. The significance of the model was tested using the chi-square statistical test. The calculation of the chi-square was obtained by the following:

$$\text{Chi-square} = -2[\ \text{log likelihood}_R - \text{log likelihood}_U\ ] \quad (3)$$

The chi-square statistics compared the model with covariate variables (unrestricted model) with the model with no covariate variables (restricted model). The chi-square test will show whether the independent variables provide a significant improvement in the fit of the model.

Results and Discussion

Table 2 shows that female-headed households spent a significantly smaller amount ($223) on human capital expenditures than did married-couple households ($538). More specifically, female-headed households spent $86 for education, $14 for reading, $27 for leisure, and $96 for health care, while married-couple households spent $170 for education, $38 for reading, $77 for leisure, and $253 for health care.

Table 2 also presents the budget shares of human capital expenditures for both households. In Table 2, the results for the female-headed households show that the budget shares of total human capital expenditures to the education, reading, leisure, and health care are 38.6%, 6.3%, 12.1%, and 43.0%, respectively. On the other hand, the results for the married-couple households reveal that the budget shares of total human capital expenditures to the education, reading, leisure, and health care are 31.6%, 7.1%, 14.3%, and 47.9% respectively.

As for the means of human capital expenditures at per capita level for these two household types, the mean values of all five categories, at the per capital level, were less in the female-headed households, compared to those values in their marital counterpart.

Table 2

Means and Budget Shares of Human Capital-Enhancing Expenditures for Two Sub-Samples

Variables	Female-Headed (N=1,391)	Married-Couple (N=7,225)
Household level:	Mean(Std.Dev)	Mean (Std.Dev)
Education exp.	$85.8 (507.9)	$169.5 (600.9)
Reading exp.	$13.7 (35.7)	$ 40.0 (74.0)
Leisure exp.	$27.2 (125.6)	$ 76.9 (193.2)
Health care exp.	$96.3 (637.6)	$253.2 (708.2)
Human capital	$223.1 (881.3)	$537.6 (1024.9)
Total exp.	$4,491.6(3,856)	$9,082.6(6,065)
Budget share:	Percent	Percent
Education exp.	38.6%	31.6%
Reading exp.	6.3%	7.1%
Leisure exp.	12.1%	14.3%
Health care exp.	43.0%	47.0%
Per capita level:	Mean(Std.Dev)	Mean (Std.Dev)
Education exp.	$85.8 (507.9)	$169.5 (600.9)
Reading exp.	$13.7 (35.7)	$ 40.0 (74.0)
Leisure exp.	$27.2 (125.6)	$ 76.9 (193.2)
Health care exp.	$96.3 (637.6)	$253.2 (708.2)
Human capital	$223.1 (881.3)	$537.6 (1024.9)

Table 3 presents the results of the tobit analyses for human capital expenditures. The negative coefficient on the dummy variable for female-headed households provides evidence that single female-headed households spend significantly less for human capital enhancement, all else being equal, than do married-couple households.

The results for total expenditures show that both total expenditures and the squared term of total expenditures have positive significant effects. The significance of the squared term indicates that it is not a linear relationship between total expenditures and human capital expenditures. In other words, human capital expenditures increase at an increasing rate as total expenditures increase.

Both age and the age squared term show significant effects but in different direction, indicating that human capital expenditures increase as age increases until the age of approximately 58, at which point expenditures begin to decrease as age increases. Not surprisingly, expenditures on human capital related items increase as the number of family members enrolled in college increases.

In this study, twelve age-sex composition variables, reflecting stage in the family life cycle as well as household composition, are included in the empirical model. The results for both female and male family members between 6 and 17 show significant and positive effects on human capital expenditures, indicating that as a household has more grade schoolers or teenagers, the family's expenditures on human capital enhancement increase. It is interesting that the result for male family members over 65 is significant and positive. This result indicates that as a household has more male older adults, the family's expenditures on human capital enhancement increase.

The effects of the existence of five income sources on human capital expenditures are estimated in this study. The results indicate that transfer income has a significant and negative effect on human capital expenditures, while controlling for other factors. This result might imply that families who receive income from public assistance programs spend less on human capital categories of consumption than do families without that form of income. On the other hand, the presence of social security retirement income increases human capital expenditures, indicating that families who receive income from social security retirement benefits spend more on human capital enhancement than do families without that income source.

Among the sociodemographic characteristics, all dummy variables measuring the education of the household head show significant effects on human capital expenditures. As expected, White families spend more for human capital enhancement than do non-White families. Among the four regional variables, only urban south proves to significantly affect human capital enhancement than do household heads living in rural regions.

The empirical model for human capital expenditures include the type of health insurance as a controlling factor because the human capital expenditures represents the sum of the four subgroups of expenditures--education, reading, leisure, and health care. The results indicate that the presence of either Blue Cross/Blue Shield insurance or dental insurance has a positive effect on human capital expenditures. The presence of an HMO is found to have a negative effect on human capital expenditures, while the presence of commercial insurance is found to have no effect.

In addition to type of health insurance, two other controlling factors, quarter and month of interview were present in the analysis. Tobit results indicate that all dummy variables for quarter show significant and positive effects on human capital expenditures. Among the four quarter variables, those interviewed during the fourth quarter show the greatest coefficient. The reference period of the actual human capital

Table 3
Results of Tobit Analysis of
Human Capital Expenditures (N=8,616)

Variables	Coefficients(Std.error)	dy/dx
Constant	-1412.5***(224.89)	-966.69
Female-Headed	-86.9* (45.61)	-59.49
Income		
Total exp.	0.05***(0.003)	3.2E-02
(Total exp.)^2	8.9E-7***(6.88E-8)	6.2E-07
Age of head	25.9** (11.62)	17.75
(Age of head)^2	-0.2* (0.14)	-0.15
College	246.9*** (32.43)	168.98
Age/Sex Compositions		
Females <6	5.3 (21.60)	3.65
Males <6	-14.9 (21.62)	-10.16
Females 6-17	35.4** (15.88)	24.22
Males 6-17	50.4*** (15.52)	34.46
Females 18-22	4.4 (30.10)	3.03
Males 18-22	20.3 (30.45)	13.90
Females 23-29	-11.5 (32.64)	-7.86
Males 23-29	15.8 (32.13)	10.80
Females 30-65	-28.7 (32.61)	-19.61
Males 30-65	-26.2 (33.78)	-17.92
Females >65	52.2 (49.43)	35.74
Males >65	322.5*** (82.90)	20.73
Various Income Sources		
Asset income	5.0 (23.53)	3.48
Child suppor	35.4 (37.83)	24.25
Pension	-91.6 (63.48)	-62.68
Social sec.	135.6** (57.38)	92.79
Transfer	-106.4*** (30.02)	-72.82
Education of Head (Less than high school)		
High-school	183.6*** (34.06)	125.65
Some college	241.6*** (37.56)	165.34
College grad.	359.5*** (43.43)	245.70
Advanced deg.	355.6*** (45.94)	243.33
Race of Head (Non-white)		
White	214.2*** (28.01)	146.56
Housing Tenure (Rent)		
Own w/ mort.	72.2*** (27.16)	49.43
Own w/o mort.	125.4*** (42.95)	85.81
Occupation of Head (Non-prof.)		
Prof/Manager	-2.9 (24.24)	-1.98
Region (Rural)		
Northeast	37.1 (39.23)	25.35
Midwest	57.5 (37.47)	39.35
West	45.7 (39.78)	31.30
South	131.0*** (37.50)	89.67

Table 3 Continued

Variables	Coefficients (Std.error)	dy/dx
Health Insurance Type		
Blue cross	69.1** (31.03)	47.27
Commercial	36.3 (24.05)	24.84
Dental	97.1** (47.83)	66.43
HMO	-67.9*** (34.56)	-46.46
Quarter(1990 Quarter 1)		
1990 quarter 2	96.6*** (32.36)	66.10
1990 quarter 3	134.6*** (32.38)	92.12
1990 quarter 4	174.5*** (32.62)	119.39
1991 quarter 1	79.9** (32.64)	54.67
Month of Interview(Month 1)		
Month 2	57.7** (25.26)	39.52
Month 3	64.8*** (25.17)	44.35
Likelihood ratio	-61959.91	
Chi-square (df=45)	3562.72***	

* Significant at .10 level ** Significant at .05 level
*** Significant at .01 level

expenditures reported in the fourth quarter is from July to November. From these results, it seems that households' spending on human capital enhancement is more likely to occur during the summer or fall seasons compared to during winter or spring seasons. It is also worth noting that both month 2 and month 3 show positive and significant effects, indicating that households interviewed in the second and third months within a quarter spend more on human capital enhancement than do households interviewed in the first month.

The likelihood ratio is computed from the tobit analysis. In Table 3, the likelihood ratio is -61,959.91 and the chi-square statistic of 3,562.72 shows the model is statistically significant at the .01 level. This result supports the rejection of the null hypothesis. It can therefore be concluded that the model of independent variables is appropriate for understanding human capital expenditures.

Conclusions and Implications

The purpose of this study is to identify expenditures of U.S. households on human capital investment and to compare human capital expenditures by single female-headed households as opposed to married-couple households. According to the empirical results of the tobit analyses, human capital expenditures indicated that holding other factors constant, there existed a significant effect for household type.

Although this study could provide knowledge of human capital investment behavior among current U.S. families, several aspects of human capital investment that were not addressed in this study could offer possibilities for future research. For example, time is a vital component in human capital development in addition to financial resources. Education, reading, leisure, and health care activities all require investments of time in varying degrees, and for many activities time is the only requirement.

Previous studies of families headed by single females have focused on their financial, sociological, and educational problems. Adding the dimension of human capital investment behavior provides valuable information as an aid to solving these economic and related problems.

The current study has attempted to examine effect of household type on human capital-enhancing expenditures. As for the further suggestion, if further research includes the specific marital status of the single-mothers (i.e., divorced, separated, widowed, or never-married) in the analysis, the results might contribute to the design of appropriate programs and services for these single female-headed families.

This study contributes to a better understanding of the effect of household type on human capital enhancement expenditures. Knowledge of factors that affect human capital expenditures provides valuable insight to family practitioners and policy makers in designing programs that could enhance the economic well-being of U.S. households.

Generally speaking, public policies are needed that recognize the returns from investment in human capital. Not only should programs enhance the well-being of female-headed households, but they should also enhance the well-being of all households. Perhaps a comprehensive national education system should be implemented for people of all ages to develop, maintain, and augment, their accumulated knowledge and skills.

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Endnote

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